

# THE AMERICAN FARMER

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## A SHORT TALK ON SWANS.

The Different Varieties of this Beautiful Fowl and their Habits.

**T**HE SWAN is a true ornamental fowl. It is a familiar sight on all lakes of the city parks, and is perhaps more universally known than any other of its kind. Its beauty is fascinating, and contrasted with the soft tones of the water, and outlined by the green foliage, creates a picture well worthy a master's hand.

Their long, well-curved necks and an

birds show the greatest affection for each other, always swimming in company, and caressing each other with their bills and necks in the most interesting manner, though, of course, the male is the most powerful and courageous. Both birds help to prepare the nest, the male chiefly gathering the materials, while the female seems to take the chief part in the actual construction.

"A swan's nest is an enormous affair, being built up of a large mass of coarse water plants as a foundation, which is lined with finer grasses. In this six to nine eggs are generally laid, which are,



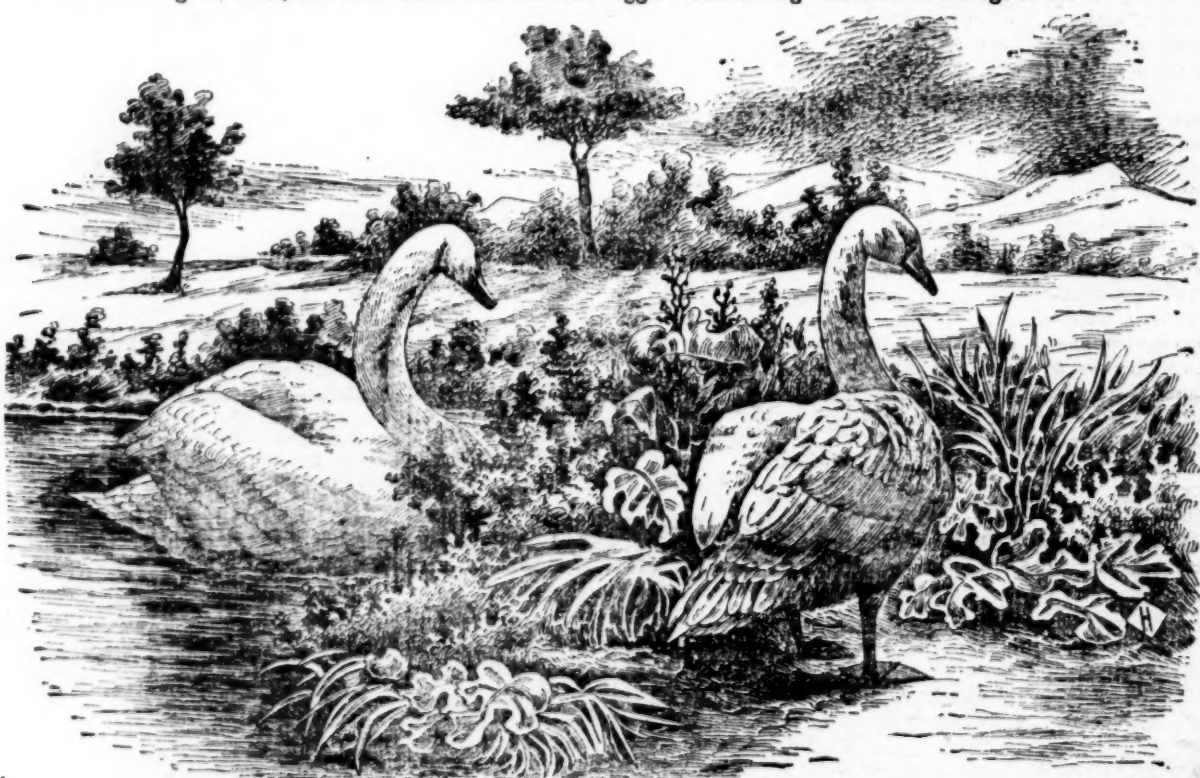
BLACK SWAN.

abundant plumage are peculiar characteristics of the swan alone. The graceful outlines and affectionate regard for each other endears them in the hearts of all.

"The swans," says "Wright's Book of Poultry," "like wild geese and ducks, have a very wide range, being found in all but actually equatorial regions. Two species at least are common to both Europe and America, besides others more local in their character; but Australia, as might have been expected from its isolated position, has a well marked species of its own. Every race is naturally migratory in its habits, though many individuals will remain, especially in the more temperate regions, in the same localities throughout the year, only taking short flights to and fro. Their powers of flight are considerable when once fairly raised in the air, but the rising appears to be difficult and awkward. They almost always, if not invariably, rise from the water, striking down with both wings and feet, and thus

of course, very thick in shell, and generally of a dirty white color, sometimes dirty pale green. The time of incubation has been differently stated, but we believe Bechstein to be right in fixing it at 35 days, though some say 42. The young when hatched are very thickly covered with down, and are generally taken to the water by the mother when only a day or two old. There they are watched over by both parents with the greatest care until grown enough to provide for themselves."

In the care and raising of swans very little can be said. During the process of incubation any attempt at management is impossible and dangerous. During this period the birds are so intolerant of interference that even the appearance of man irritates them. All that can be done is to give the old birds a little grain, and see that their privacy is not disturbed whilst sitting. Domestication would remedy this, and make the birds more amenable to reason, and would increase the number of eggs. Considering



THE MUTE OR WHITE SWAN.

proceeding, half flying and half splashing, for some 20 or 30 yards before they can fairly raise themselves; after which, however, they frequently attain a great height, Franklin stating that he has seen them in the Polar regions several thousand feet above the earth. They always descend also into the water, approaching it in a slanting direction, and stretching out their broad webbed feet to check their speed at the moment they enter the familiar element.

"Swans generally pair for life, their whole behavior offering a beautiful example of conjugal fidelity. The two

the size of the birds, the hardness of the young, and their excellent quality, it is much to be wished that some serious attempt should be made to breed them more extensively for market purposes. When hatched, if very wild, the cygnets can be fed by throwing coarse oatmeal or grits upon the water, or soaked ground biscuit may be given in the same manner; but if the old birds are tame and familiar, they will often bring the brood to feed from a trough placed at the edge of the water, in which the food should be placed, always in water, as in feeding grain to ducks.

The five most commonly known breeds of swans are the Mute Swan, the Whistling Swan, the Black Swan, the Black-necked Swan, and Bewick's Swan. The Mute Swan is that so well-known upon our lakes and other waters as an ornamental bird, and is a native of Northern Asia and Europe. It is the largest and most beautiful of all the swans, the neck being very long and slender. The bill is red, and the large protuberance at the base black; the eye brown, the legs and feet brownish or blackish gray, and the plumage all over a pure and spotless white. Its voice is very soft and low, with a pleasing, melancholy tone. It is not mute, as its name implies. The cygnets when hatched, and for a good while after, are gray.

The Whistling Swan would more appropriately be called the Musical Swan. The bill in this species wants the protuberance of the Mute Swan, and is yellow; it is also somewhat smaller, and the neck is considerably shorter and thicker than the Mute Swan. Its beautiful voice is alone enough to make its thorough domestication worth a little trouble.

The Black Swan is the best known next to the Mute Swan, having been imported from Australia many years back. The eyes are scarlet, the legs black, the bill red, tipped with white; the plumage is rather sooty black, shading on the edges of many feathers into a very dark grey. In the long and slender neck, and general outline, it resembles the Mute Swan, but it is not quite so large. The Black Swan breeds freely and the young are hardy. They are established favorites on our ornamental waters and in the Zoological Gardens.

The Black-necked Swan is sometimes called the Chilean Swan. It is a most beautiful bird and is imported from South America. Their eyes are brown, the bill lead color, with the protuberance (which is strongly marked in this species) red; the legs reddish-orange. The plumage is pure white, except the head and neck, which are jet black, all but a narrow streak of white across the eye. In swimming the neck is held nearly straight, like that of a goose, not curved, as in most other swans. The young are said to grow with immense rapidity, which is worthy of note with a view to domestication.

Bewick's Swan is a still smaller white bird. The neck is very slender, but not long. It is said to be very shy and timid in captivity, and we believe has never been bred in such circumstances; it is indeed very difficult to obtain any of the rarer swans in pairs, the specimens captured being generally odd birds which have been wounded.

Americans are said to have the poorest teeth of any people in the world. It is said the more brain work a person has the worse his teeth become. The same result is attained by lack of proper nourishment, and it is said by a well-known dentist that 50 years hence, among the very poor classes, everybody will be toothless at the age of 20.

## PLANTS FOR FORAGE PURPOSES.

An Extremely Large Number of Valuable Grasses which can be Used.

BY J. M. RICE.

**A**MONG the general names of forage plants are included many plants which are technically known as grasses, yet they are never popularly called grasses.

Among this class is our well known Indian corn, scarcely ever thought of as belonging to the grass family, and the same might be said of the Southern sugar cane; but it is only occasionally that either are classed as forage plants, though largely used as such.



CHINESE SUGAR CANE.

Then there are the saccharine sorghums, generally called Northern cane and introduced nearly 35 years ago by Orange Judd, of the American Agriculturist, as Chinese sugar cane. This is widely disseminated, though not proving so well adapted to the East as to the West, has not been grown there generally. In the central West it was grown many years for the making of sirups without any thought of the forage, as the leaves were stripped from the stalks and allowed to remain as they fell on the ground.

The seed was not saved any further than needed for planting again, only as the stock might gather them up when pasturing the fields. Eventually many gathered up the seed, using it without thrashing, while a few thrashed and ground, in connection with other grains as chop feed. There are now some 140 varieties in cultivation as grown at the Government Experiment Station, Sterling, Kan. with a view of selecting those containing the largest per cent. of sugar. Some 12 varieties have been selected having especial merit. But it is as forage plants that they have attracted most attention the past 20 years in the further West, and they are more largely planted as yet than any other kind. Of these perhaps the Colman and Folger will yield the most forage.

Of the non-saccharine sorghums there is a long list, and they have very misleading names, and are variously known as maize, corn, millet, and grass, when they would not be recognized by the novice writer by any of their names. All of them except the latter (Johnson grass) bear seed heads more or less like the common or saccharine sorghums, and so are not corns or millets, as we commonly use the words.

The most commonly raised are the red and white Kafir corn, Jerusalem corn, yellow and white Millo maize, brown Downham corn, African millet, and Johnson grass. In another branch of the grass family we find Teosinte, a very valuable forage, but it will not produce seed here, so does not add any grain to our stock; and as seed has to be imported, it is high priced, so is not likely to become popular.

Among the artificial grasses, alfalfa is best adapted to the semi-arid sections and is classed with the forage plants, though elsewhere it would be known as a clover. Then in the vegetable line we have the cowpea, which is a misnomer, for it is a bean, and the Soy or Soja bean just being introduced the past few years.

Now, some of your Eastern readers may ask, Why raise forage plants? They are valuable in themselves. Some of them are adapted to every section of the country. The cowpea has been known to the South a long time. It is valuable as a hay, for its seed, and as a nitrogen gatherer and fertilizer it prepares the

ground for their crops, and fills the place largely of the clovers which cannot be successfully raised there. It is in these respects that they are likely to prove very valuable to this new Oklahoma, and they also are able to withstand long, dry periods, which is necessary in a plant here that is growing in Midsummer.

We think now, as attention is being attracted toward them, that their cultivation will be extended quite considerably North. They can be grown in various ways and planted at various times, and are likely to fit in as an emergency crop. While comparatively tender, and in cold soils it would not be safe to plant until ground is thoroughly warm, yet in our warm, dry soil they can be planted as soon as danger from frost is past, and be easily out of the way for Fall wheat seeding. Or they can be planted after wheat harvest, and as wheat can be seeded as late as Jan. 10, they can be raised as a second crop easily, as they mature in 50 to 70 days. They have only been tried one year in Oklahoma, but the 50 acres raised at the experimental and college farm was a splendid success, though on soil or first year's breaking, and a quart each is being sent out to every farmer wanting to test them in the Territory. They were sown broadcast in thoroughly disked and re-plowed soil.

The Soy or Soja bean I have tried under unfavorable circumstances, but Prof. Georason, of the Kansas Station, is enthusiastic in its favor. The general reports are conflicting, but this is doubtless due in part to the fact that there are several varieties, and all may not succeed alike. Further trial is needed before deciding as to their merits.



SAINFOIN.

*Lathyrus sylvesteris* is a plant of the pea family, but our first trial was a failure, and as seed is very high-priced, and the outcome somewhat uncertain, it will be well to let our stations and experimental farmers test it a few years yet. In alfalfa the drier regions that have a porous subsoil have an assured plant. Its value is unquestioned and the yield enormous. But it must have deep, porous subsoil for its roots run from 10 to 30 feet. On compact soils it is a failure. Dry weather effects it but little, though of course growing more luxuriantly where irrigated, but it must have a soil easily to penetrate with its roots.

Of the non-saccharine sorghums, their success is well assured. They yield much more and better forage than corn, and an equal or greater amount of seed, and will withstand drought that will entirely ruin any prospect of any grain on the corn. While it is true that in moist climates or in a season of the West where there is the normal amount of rainfall it will yield more largely, yet it will produce fair crops in the driest seasons. While corn will not revive after being injured in tassel and silk or the bloom, these plants will form new heads, and if not too late will ripen their seed. This country was opened to settlement last year two months too late and while no corn could be planted before May 10, while we planted this year March 20, and it of course could not amount to much. We planted largely of forage plants from May 10 to June 20, and had feed in abundance and to sell. There is yet time to plant, and it does well in soil.

Of the varieties red and white Kafir corn and yellow Millo maize are to be specially commended. Jerusalem corn is a nearer candidate and is highly recommended, but in our two years it fell

below the others in forage and seed. As a planted crop, do the same as with corn, except if in drills they can be as close as eight inches, and if in hills three to five grains two feet apart. If sowed, let it be



LUCERNE.

as thick as corn. Of course as the seed is small, much less per acre will be required. We believe they can be raised with profit in every part of the country.

### IRL HICKS'S FORECASTS.

What the Weather Prophet Says About the November Outlook.

About the 2d and 3d of November will center a reactionary change to warmer, which change will begin in the West with southerly winds, growing cloudiness, and rain. These conditions will advance eastwards during the 3d and 4th, followed closely by the shifting of the wind to westerly and colder. About the 7th a very marked storm period will begin. Both the "Vulcan" and Mercury disturbances are central on the 8th, making direct connection with the new moon on the morning of the same day. This period will set in with a decided change to warmer in western parts, resulting in very active storms of rain and wind, turning to snow and sleet in many places northward, and followed promptly by a severe and general cold wave. From about the 7th to 10th, beginning in the West, all parts of the country will in turn experience the progressive and changing phases of the period. There are reasons to apprehend hard and dangerous gales in connection with the disturbances of this period, especially on the lakes and northern seas. Sharp cold and freezing may be expected immediately behind the area of low barometers, and storms, causing cold and frosty weather, generally up to the changes to warmer and stormy from about the 14th to 16th. Be on the watch for sudden changes to colder after the storm area of each period passes to the east of your locality.

The opposition of Jupiter occurs on the 17th, and there is much indication that these oppositions greatly excite all atmospheric perturbations occurring about such times. This opposition will likely be felt most severely during the storm period running from the 19th to 23d. The Venus excitement will also be present at this period, giving good grounds for fearing heavy storms as a result. Heed our warning and be on the watch for them and for the cold that will press behind them on land and water. The final crisis of this period may not come until the full moon, on the 23d, but be ready for severe storms, with danger on the lakes, at any time during the period. The Venus extremes from warm to sudden and piercing cold, with thunder and rain, turning to northwest gales and snow, will show themselves at this time.

The Venus equinox is central on the 29th, and its influence will be plainly felt in all the disturbances for about 20 days before and 20 after that date. Ordinary or normal disturbances otherwise will be excited into great and prolonged violence, so that many disasters will be heard from. The reactionary movements about the 23d to 27th will feel the central force of this Venus period and wind up in great cold. So will the regular storm period, which begins about the last day of the month and runs into the opening days of December.

One of the most remarkable productions of the Isles of Chiloe is the celebrated "barometer trees," which grow in great profusion in all of the salt marshes. In dry weather the bark of this natural barometer is as smooth and white as that of a sycamore, but with the near approach of storms these characteristics vanish like magic and the bark turns black.

## APPEAL TO COTTON GROWERS

On United Action in Favor of Protective Duties for Cotton and Wool.

BY JUDGE WILLIAM LAWRENCE, OF BELMONT, N. Y., PRESIDENT OF THE NATIONAL WOOL GROWERS' ASSOCIATION.

THE TRUE AMERICAN POLICY IS—  
I. By adequate protective duties to exclude foreign cotton and wool, and thus give American producers a fair market.  
II. Devote a part of our lands now yielding an over-production of cotton and wheat to sheep husbandry, now inadequate to supply half our needs.  
III. Increase our cotton and woolen factories, and by protective duties exclude all cotton and woolen fabrics.  
IV. By reciprocity treaties secure for cotton manufacturers, and, if possible, for some form of our wool manufacturers, some of the foreign market now supplied by Europe.

Speaking as a wool grower, and on behalf of wool growers, I feel justified in saying that the great body of the flock masters of the United States are ready to unite with the cotton planters of the Southern States in asking for the industries of both classes a "full and adequate protection," and the adoption of other measures which are essential to prosperity.

Some years ago Edward Atkinson, the eminent political economist, said:

"The cotton factories of the world now require annually about 12,000,000 bales of cotton of American weight. Good land in Texas will produce one bale to the acre. The world's supply of cotton could therefore be grown on less than 19,000 square miles, or upon an area equal to 7 per cent. of the area of Texas."

The South is hence in a position to need employment for her lands.

Shepperson's Cotton Facts for 1892 says the total spinners' takings of American cotton for 1892 were as follows:

Great Britain, year ended Sept. 30..... 2,881,000  
Continents of Europe, year ended Sept. 30..... 2,495,000  
Japan and India, year ended Sept. 30..... 22,000  
United States, year ended Aug. 31..... 2,858,000  
Canada, year ended Aug. 31..... 80,000  
Mexico, year ended Aug. 31..... 45,000  
Total..... 8,179,000

In the year 1891, 2, 83 per cent. of the consumption of cotton in Great Britain was of American growth, and of that consumed on the Continent 63 per cent.

The census of 1890 gives the American acreage at 30,150,019; the acreage in India in 1892 was 14,928,000; in Egypt, 950,000 acres. Brazil, Peru, Mexico, and Africa are on the way to become formidable rivals.

The exports of American cotton for the fiscal year 1892 were 2,935,219,811 pounds (5,891,411 bales), of the export value of \$258,461,241.

In view of these facts, and others which remain to be stated, I propose to show that it is, and will be, to the mutual interest and advantage of cotton planters and of wool-growers, by concerted action, by legislation, and by all legitimate methods, to agree upon and secure a policy as follows:

I. Exclude imports of cotton and wool by adequate protective duties, and thus give American producers a fair market.  
II. Devote a part of the lands now yielding an over-production of cotton and wheat to an increase of sheep husbandry, now inadequate to supply half our needs.  
III. Increase our cotton and woolen factories, and exclude all foreign cotton and woolen fabrics by protective duties.  
IV. By reciprocity treaties, under the tariff act of Oct. 1, 1890, secure for our cotton and woolen factories some of the foreign markets now supplied by Europe, and thus be enabled to increase our acreage and product of cotton, and our product of wool and mutton.

In support of these positions I present some facts and reasons:

I. Protective duties for cotton and wool.  
The imports of raw cotton, cotton waste, and locks for the fiscal year 1892, entered and withdrawn for consumption, were 28,458,566 pounds, of the custom-house value of \$3,211,359, besides cotton waste not for paper, 213,065 pounds, of the value of \$8,556.96. Of this cotton there came from Egypt 16,763,723 pounds, at a value of \$1,556,885, and from Peru 1,844,990 pounds, valued \$1,856,885.

The imports of cotton for the fiscal year 1893 were 43,381,952 pounds, of the custom-house value of \$4,688,799.

And soon Egypt, the East Indies, Africa, China, and South America will be crowding our markets with cotton to the ruin of American planters.

The New York Exchange of July 21, 1893, says:

"The increase in the production of cotton in the Transcaucasian Provinces of Russia is referred to in the latest British Consular report from Batoum. It appears that last year as many as 72,565 tons of raw cotton were transported across the Caspian to Batoum, and thence by the Transcaucasian railway to Batoum and Poti.

"As it is cheaper than either American or Egyptian cotton, which pays a very heavy import duty, it is expected that in a few years, when the cotton crop of the Transcaucasian Provinces will suffice to furnish the raw material required by the Russian mills, American and Egyptian cotton will cease to be bought in Russia."

The world's production of cotton is given in Report No. 5, Miscellaneous Series, United States Department of Agriculture, 1893, page 33.

While thus, with our present inadequate cotton manufacturing plants, our cotton growers are compelled to seek a foreign market for nearly two-thirds of their product, they are met with foreign cotton and in part driven from our home market. This depresses the price. But this is not all. When their product is sold in Europe, it is there met with cotton from the East Indies, with labor at six cents a day; with cotton from Egypt, China, and other regions, all with labor at very much less cost than in the United States.

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## Yard Echoes.

Give the young colts plenty of run, as it is the best known thing for the development of muscle.

It is now time all the stock on the farm should receive attention. If anything, this should have been done before.

It is truthfully asserted that in the time it takes to fully develop one better animal three beef animals can be reared and marketed.

Unusual preparations should be made in the barn. It should now have a good cleaning and everything prepared for the coming winter.

As a general thing it does not pay to winter any old stock that have past the day of their greatest usefulness. Fall is the time to dispose of this old stock.

Never send an animal to market until it is thoroughly ready. It is very poor economy if this is done, because the animal is in such a condition that the remaining weight can be put on at the least expense.

If you are desirous of rearing the heifers without their horns, now is the time to act. Apply the caustic potash, which is sold at any druggist, to the embryo horns and their growth will be completely checked.

The pride of every farmer should be to have all his stock go through the winter and come out in spring in better condition than they are today. We say that this should be the farmer's pride, but we regret to say that the majority do not make it such.

Some writers are recommending the coffee treatment for horses which have been overworked or have lost their strength and appetite. The coffee is roasted, the beans ground, mixed with honey and fed to the animals. An incident is related where a broken down and supposed incurable horse was bought for \$15 and after a few months of the coffee treatment the owner received an offer of \$250 for the animal.

Rational treatment is quite beneficial to a horse, so much so that an exchange says: "There are many horses that with a little care, resting at proper times and given rational treatment, might do excellent service the year round without shoes and be better for it. There are many who could pay their taxes with the money they are paying their blacksmith. Save your money and your time, and, perhaps, your horse from many a lameness resulting from poor horseshoeing."

## OUR FRIEND, THE HORSE.

Some Excellent Rules Governing His Proper Care and Management.

BY H. FEDDERSON.

## II.

FTEN many persons whip a horse when uneasy before a wagon, and then jerk him back so hard as to nearly throw him on his quarters.

Such harsh treatment cannot but fill a horse with fear and distrust. Do not get angry. An angry man injures himself and his property in his rage; a sensible man keeps cool, and inquires into causes, generally finding a remedy.

A colt born in May will be about five months old toward the end of October. Now is the time to begin to feed a small allowance of cracked corn, say twice a week. Cracked oats is the best feed to produce bone and muscle, but a certain amount of corn is necessary to keep up animal heat in winter. A horse or colt that is kept warm and comfortable in winter will do much better than one that isn't. Cold and damp stables and poor feed are the enemies to a colt's growth and to a horse's thriving.

The colt, now knowing what a harness is, should be harnessed together with his mother, and first led and then drove around in the barnyard three or four times a week. During the entire education of a colt there should be no shouting, swearing, and lashing with the lines on the part of the driver, and the whip should be left out as much as possible.

It is much easier to conduct everything quietly. Nearly all colts are willing to pull and do as they are bid as soon as they understand, and they should be made to know what is wanted of them in a gentle though firm manner, with caresses and apples or sugar as reward for good conduct. Horses and children are much alike; both like to be rewarded for good conduct, and will generally try to do better. This is the method of the most celebrated horse trainer of America, D. Wagner, of Battle Creek, Mich.

The education of a colt, as I have described it, requires some more time than common "breaking" but which pays best—carelessness or care with good results? Farm horses should not be driven at a 2:40 gait in summer. One day's hard driving will do more harm and stiffen their legs more than three or four days of hard but slow work. When breaking a young colt do not hitch him up with an older horse that has any bad faults or tricks. A colt is an apt scholar, and learns much quicker from his own kind than from man. Do not use an old bridle with a worn out bit; the sharp edges saw into the corners of the mouth, often pinching out a bit of skin. This will even cause an

older horse to fear the bridle, much more so a colt, making him once more "foolish about his head."

If you have no other than an old bit, wind the corners with cloth. Do not drive up to a gate or door at a furious pace, then pull up your horses suddenly, just because some pretty ladies may be there, and you want to "show off." What you think looks like a fine bit of driving before females, or other eyes, is a very severe and painful shock to your animals. Do not go down hill with a load without putting on the brake. Holding back a load by main strength and bracing has a very weakening effect on the nerves and muscles of a horse's legs and neck.

And if you are hauling, don't overload. Horses that are wind-broken, knock-kneed, spavined, hump-backed, and saddle-backed have generally become so by over-exertion and neglect. How often I have seen men drive hard in winter, then tie up at a saloon or at some acquaintance's house. The two-legged beast then toasts his shins by a good fire, and likely takes unto himself a hot drink to stave off a "cold," while his poor servant, damp with perspiration, is left out in the chilling wind for half an hour or more, often without a blanket.

When cultivating corn or running the binder, or any equally hard work, watch your horses closely on excessively hot

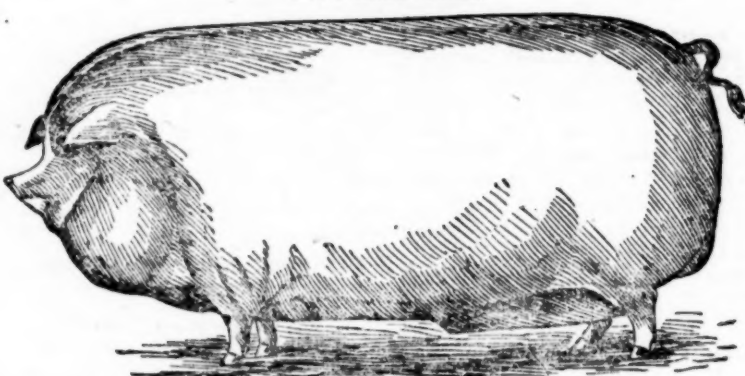
days before the operation the sheath should be thoroughly washed out with warm water and castile soap, and greased with sweet lard. After castration protect your colt from cold and rain, but let him have some exercise. Feed very little grain until the wounds are entirely healed, and give all the grass he wants. Some horses are nearly always clean, while others require washing out of the sheath every month or two. Clean, sweet lard should always be used afterward. Sometimes the so-called horse beans give much trouble. In the upper end of a horse's yard will be found a small, round cavity, in which is a cheesy, grayish deposit, which often gives rise to swellings and painful passage of urine. For digging out this substance, nothing is better than a common ear spoon.

This should be done with great care to prevent injury to the tender parts. If a gelding or stallion suffers with retention of urine, a Veterinary Surgeon of repute should be called immediately; a horse soon dies from uræmic poison. A small slice of soap inserted in the parts will generally produce the desired result. Horses suffering with colic can often be cured by salt and water. Dissolve a cupful of salt in half a quart of water, and fill into a long-necked bottle. Elevate the horse's head, pour down the liquid, keeping his head up until he has swallowed all. Then trot him around till relieved, and do not allow him to roll unless in extreme agony. For the cure of most horse diseases, I cannot recommend a better guide than the book written by D. Wagner, of Battle Creek, Mich.

What is the proper time to begin hard work with a young horse? Generally at three years of age they are put to work on the farm, and are driven in town by livery stable owners. If one begins with moderate work or driving, three years is not too young; but they should not be expected to do as much as a five or six-year old one.

(To be continued.)

## The Poland China.



The illustration we present this week represents a well-known animal at one year old, Victor 7313, C. P. C. R., formerly owned by John Harcourt & Bro., New Augusta, Ind. The animal has produced some excellent show prodigies and has made quite a reputation.

days. As soon as you notice the perspiration "drying in" on them, unhitch and take them into a shady, cool place. Dash cold water on the horse's heads and bodies, and after awhile lead them around slowly. Many a fine horse has died in the field from sunstroke. The best plan is to put a common straw hat on a horse's head, with two thin strips of ash sewed inside the hat, and made to slide into the bridle on each side of head, balancing about three inches above it. This is but little trouble, and insures comfort and safety. Our horses of today are finer bred than 20 years ago, and require more attention, as we, ourselves, require more luxuries than our forefathers did 50 years ago. Why not do more for the comfort of dumb brutes than in days of old?

Do not work your teams too hard when you do work, and do not let them be too idle when you have no work. Too much rest means rust, and I, for one, know that there is always some work on the farm.

On almost all farms horses are fed the same thing year after year—corn and hay all winter, and hay all spring and summer, with intervals of pasture. Many even feed corn during spring work, because they sold all their oats for a good price. Corn is too heating for hard work in warm weather, and should be fed sparingly during that time. Horses should have a variety of food, and this is easily procured, since there are so many new forage plants introduced of late. There is, for instance, Kaffir corn, which yields an immense amount of sweet and nutritious fodder when cut green, while each stalk bears a large bunch of seed, which, when ground, furnishes a flour as white as that made from wheat. Horses like these seeds as well as oats when used to them. As these seeds act something like oil cake, they should not be fed day after day, but three or four times a week for a change. A farmer can buy many varieties of forage plant seeds from any reliable seed house.

Carrots are one of the best change foods for horses, and an immense quantity of them can be harvested from an acre of land. When turning horses out on pasture after the hard spring work is finished, they should be allowed a feed of oats once a day, for every farmer knows how "soft" the animals will become in a week on nothing but grass, making them unfit for subsequent hard work. Before spring work commences the teams should be exercised every day to harden them for the coming plowing and harrowing. Many a man after delivering a load to town or coming home from some long drive will go at most rapid pace till he reaches his own gate, and after unhitching will rest and sleep for an hour or more. You surely are not very tired after riding, so why not give your horses the benefit of your rest in the shape of slower driving? Do not think they will last longer and keep better for it?

The proper time for castration is in the spring, before fly time, and when the colt is about a year old. A few

Keeping the pig pen dry is a very important item in the rearing of pigs.

Corn supplemented with clover or grass is a far better feed and makes the best gains than when fed alone.

A good portion of the second crop of clover can be used with very good results for feed of the hogs to fatten on.

Begin to feed the hogs with the idea in view of preparing them for market. The killing time is not so far distant.

N. J. Shepherd, the well-known writer, says the pig has a place on the farm that no other animal can fill as well as he can.

When the swine are in a healthy and thrifty condition, it does not take very long to have them in good condition for marketing.

Some people recommend feeding floors for swine, claiming that such a floor well constructed will save much of its cost in feed.

Home-cured pork is far better than that turned out at the packer's places. Supply yourself liberally before marketing your pig.

After beginning the fattening operation, keep continually at it until the end, meanwhile forcing the animal as much as possible.

Care may not always keep a hog alive, but it goes a long way. Unless care is taken to make the animals comfortable, their growth will not be entirely successful.

If you are preparing to fatten your pigs, do not put on full feeding at once, but gradually increase the amount of his regular feed each day. This is a much better method.

When the pasture is getting short in the autumn, it will pay to buy mill feed to keep the hogs growing. Do not let them go back, or even come to a standstill in growth.

Profit by the experience of last year. Do not sell all your hogs, even though you may get an exceptionally good price for them. You will lose by it if you sell all your stock.

Keep the hogs out on pasture as long as it is possible when fattening for market. So long as this is done the result is more economical than when the process is being performed in a close pen.

Some writers claim that there is more money in the business if a farmer will cure the pork himself instead of sending it to the market on foot. We are of the opinion that this is so if a market can be found.

"Don't Tobacco Spit or Smoke Your Life Away."

Name of little book just received—tells about tobacco, the wonderful, harmless, economical cure for chewing, smoking, cigar or snuff habit. You run no physical or financial risk, for tobacco is absolutely guaranteed to cure or money refunded. Your druggist's got it or will get it. Write for the book—mailed free. THE SKEELING REMEDY CO., Box 3, Indiana Mineral Springs, Ind. Agents wanted.

## SHEEP AND WOOL.

FOR THE DISEASES IN SHEEP.

Various Afflictions and Remedies—Pale Disease in Sheep.



ACCORDING to communications which I have received relating to the above disease, I gather the following, highly important facts and suggestions: First, that it is identical with hog cholera, and that both diseases are caused by numerous small worms in the stomach and intestines. One man, who writes to me, says he cures hog cholera and "pales" in sheep with the same medicine; and it is my opinion that the hen cholera admits of the same classification.

Post-mortem examinations have discovered thousands of small worms in the stomach of the sheep. The theory being correct, of which I have no doubt, whatever, will expel worms from the animal and act as a preventive and a cure. Copperas given in salt at the rate of one-fourth of a pound to 100 sheep is recommended, to which I would add tobacco, pulverized or in snuff. It is death on the insect tribe. Coal oil (petroleum) is recommended as an infallible remedy. It has lately been tried in one case of the pale disease under my observation, and with perfect success. I think that if the facts above given will be made known throughout the country, it will save thousands of valuable sheep and hogs.

I would recommend gas tar as a certain cure for foot rot in sheep. The feet should be carefully pared to remove every particle of the diseased portion, then washed and allowed to dry. Each foot should then be dipped in a small dish of the gas tar.

To revive a chilled lamb: Hold the animal in a large tub half filled or more of warm water and give it a thorough washing, taking care to keep his head out of the water. This is the best, the safest, and quickest way to revive a lamb that is almost chilled to death. Let them be rubbed dry with cloths and get them well warmed before they are returned to their dams. It requires a long time to warm a chilled lamb by wrapping it in a cloth and placing it on the floor near the stove, which is often the coldest place in the room.

## SWELLED JAWS AND THROAT.

The first thing to be done then is to take the animal away from the flock as soon as it is attacked, and keep it away in another barn, if possible; the farther the better and safer for the rest. Give it plenty of fresh air and sunlight; shear the wool closely from the affected part; make a hop poultice and spread it upon a cloth long enough to reach from the nose down to the brisket, and wide enough to come well upon the sides of the neck. To the edges of this cloth sew five pairs of strings, one to be tied between the eyes and ears and three upon the neck. Let this be changed as often as it gets cold.

Give a pint of good oatmeal gruel, into which you have put two teaspoonfuls of strong ginger and a gill of whisky, every six hours, and if you lose your patient you will have the consolation of knowing that you have given the best treatment that experience could suggest. If a swelling occurs which is not attended by mortification or which does not result in that careful search which should be made for any abscesses that may be forming about the parts, and when any soft spot is found, it should at once be punctured with a sharp knife. If the abscess be a large one or there be several of them, apply the same poultice as recommended above, and the same

moisture; the animal becomes chilled and is found perhaps after a snowy night in the helpless state before mentioned. Though more frequently affecting lambs, it may also attack sheep of all ages, and particularly the ewe that has aborted or produced her lamb with difficulty, and after a tedious labor in cold weather.

It often attacks the newly dropped lamb, and sometimes proves fatal during the night. When less severe the lamb is found stationary and with its hind limbs powerless. When this is the case, it rarely becomes otherwise than stunting its growth, though after a time it may get rid of the paralysis. This disease is often confounded and not unfrequently connected with rheumatism; but the former has its origin in the nerves, whilst the latter, though the more painful, is an affection of the muscles. The treatment of palsy in sheep consists in the application of warmth externally, but moderate at first and gradually increased.

A stimulant should be given internally in warm gruel or ale. A dram each of powdered ginger and gentian, with two drams of spirit of nitrous ether, is a dose for a sheep, and may be given once or twice a day, and from one-quarter to one-half of the above will be sufficient for a lamb. If symptoms of purging should appear, the following astringent medicine will be found very useful: Powdered chalk, one ounce; powdered catechu, four drams; powdered ginger, two drams; powdered opium, half a dram; to be mixed carefully with half a pint of peppermint water and two or three tablespoonfuls given morning and night to a sheep, and half this quantity to a lamb.—A FARMER, Columbiana County.

## Wool at the World's Fair.

The wool exhibit at the World's Fair has much about it that is highly creditable, but there is a marked contrast between the efforts of foreigners and those of our domestic wool growers in the manner of making their displays. The wool exhibits of Australia are in every way attractive and cannot fail of drawing to them public attention, while those of our Central and Western States do not excite more than passing notice except from those immediately or specially interested in them. Americans have much to learn in how to exhibit at international fairs. Foreigners have become experts in this direction, while we are in a sort of a novitiate state. Europe is frequently having international exhibitions of some kind, and exhibits are entrusted to persons trained in exposition work. Such is not the case here, hence the unfavorable contrast.

But as to the wool exhibit. Most of us wish we could say all of the American wool that is on exhibition at the World's Fair is honestly put up. There are some fleeces, however, notably in the Ohio wool exhibit, that have had evidence of fraudulent intent in their putting up. We will refer to one instance of a fleece purporting to have weighed 41 pounds, upon which were found 104 pounds of dung balls; and to another of a fleece which contained a starch box of ordinary size, put in with the apparent purpose of not only filling out the fleece, but of making it handle light for its bulk. Some of the best Saxony blooded wools at the Fair came from West Virginia.—Boston Commercial Bulletin.

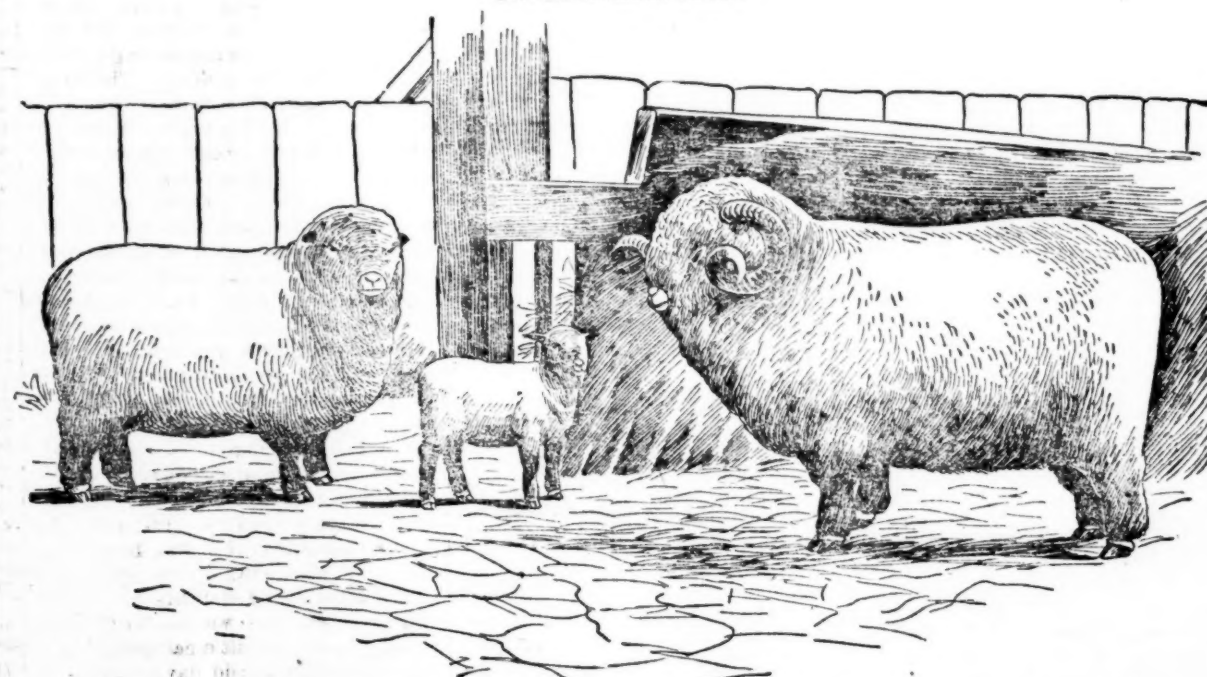
## PASTURE LAND.

The British Idea of Maintaining and Increasing Fertility.

In his address to the British Dairy Farmers' Association, Prof. Gilchrist said:

"For rye grass and clover hay.—For land in good condition, one hundred-

## The Rambouillet Breed.



A trio of sheep bred and presented by F. Von Homeyer, Pomerania, Prussia. Ram, Humber, 328, A. R. R.; ewe, Pauline, 326, A. R. R.; lambkin, Remona, 341, A. R. R. The ram and ewe were both dropped March 27, 1888, and are now owned by Grinnell, Townsend, and Wyckoff. Ramona was dropped Jan. 2, 1891, and is owned by the same men.

general treatment modified by mildness or the severity of the disease.

Sheep frequently become sore in the lips from feeding on St. Johnswort and other foul plants, or from unhealthy blood. One of the best flockmasters whom we ever knew gave us this as his method of cure: Take fine salt peter and mix it with pig's foot or other soft animal oil. With a lather of castile soap wash out the scabs from the sheep's lips and anoint the parts affected with the mixture above specified. Another cure for sore lips in sheep is to wash with a steep of gold thread in water.

## FALSY IN SHEEP.

This disease consists in a suspension of the powers of the nervous system, either wholly or in part. Sometimes the animal is totally helpless, every limb being affected; at others it is principally confined to the loins. The cause of this disease is generally cold, combined with

weight per acre of nitrate of soda, or one hundredweight sulphate of ammonia, is useful. The latter may be applied during March, and the former about the middle of April. If the land is in poor condition, two hundredweight superphosphate is a useful addition. This may be applied any time between December and March. Farmyard manure may be very usefully applied to young grass and clover seeds in the autumn. On light soils this is an excellent practice.

"For meadow land which is growing hay every year the following four-course rotation of manuring will be suitable:

"First year—15 tons of farmyard manure, applied in the autumn.

"Second year—One hundredweight nitrate of soda.

"Third year—Four hundredweight basic slag, or three hundredweight superphosphate, and one hundredweight nitrate of soda.

## A WATCH, A CHAIN, A PAPER, \$1.65.

The Best Premium Offer Ever Made to the American Public.

NO TOY, NO HUMBUG, NO CATCH.

Only an Honest Watch and a Great Newspaper for Every Farmer for Less Money than he Can Secure them Anywhere Else.



We first offered this great premium in our issue of Jan. 1 for \$1.60 for paper, watch, and chain, limiting the time to 30 days. The demand for them has come by thousands. We find that they cannot be produced so cheaply as we had expected. We are, therefore, obliged to increase the price from \$1.60 to \$1.65.

## DESCRIPTION OF THE WATCH:

This watch is a timepiece guaranteed to run with accuracy. It need only be wound once every twenty-four hours. No key has to be carried, but it winds and sets by a patent attachment shown in the cut of the works. The face, therefore, need not be opened to set it. It is suitable to carry in the pocket or to hang upon the wall in bedroom or parlor.

To save space the cuts are slightly reduced in size, the face of the watch being one and seven-eighths of an inch in diameter and fifteen-sixteenths of an inch thick. It is no heavier than an ordinary silver watch, and but a trifle thicker. It has a strong, quick beat and runs in any position, either at a standstill or in motion, and is not affected by heat or cold. It is open-faced, with a heavy, glass crystal. The case is polished and lacquered to resemble gold. This material is frequently advertised as vermeil or fire gilt. The chain is not shown in the cut. It sells at retail in the country from 15 to 25 cents. A small chain also goes with the watch.

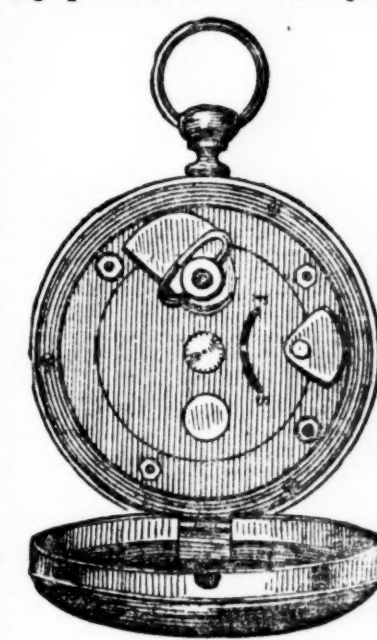
Remember that THE AMERICAN FARMER comes twice a month at the regular price, when taken alone, is fifty cents a year. We send, postpaid, the watch, the chain, and the paper for an entire year for only one dollar and sixty-five cents.

Our arrangements for the watch compel us to put a time limit upon this offer. We can only furnish this premium combination to those who order within thirty days. We regret to be obliged to place any limit whatever, but the sum is so small that it will not inconvenience anyone, we trust, to send in his name and subscription price for the premium and paper at once.

In order to demonstrate our entire confidence in our proposition, we guarantee the delivery of the watch in good running order.

The watch and chain will be sent, postage prepaid, to anyone who will send in a club of six yearly subscribers at 50 cents each, and only 10 cents additional money to pay cost of postage and wrapping. Address as usual.

THE AMERICAN FARMER, Washington, D. C.



"Fourth year—One hundredweight nitrate of soda.

"For pasture land nitrate of soda should not be used, but otherwise the same course of manuring might be adopted until the pasture was in good condition, when a dressing of a few hundredweights of basic slag or of superphosphate every four years would probably be sufficient.

"After wet, marshy land has been drained an application of lime generally gives excellent results. Lime is also useful for sour, stiff pasture land which is rich in plant food, as it stimulates the action of the plant food already present in the soil.

"A potash manure, such as kainit, gives excellent results on some pastures,

cession when they are in full flower, but if docks are to be exterminated the roots must be removed. Where horses graze, the pasture is certain to deteriorate. These animals eat the pasture close down to the bottom in parts of the field. They do not distribute their droppings, but deposit them in patches at different places, and on these patches the grass soon becomes rank and coarse, as it is not touched by the animals. Cows in milk are very exhausting to pasture, especially when they are kept in at night, as in this case much of their manure is not returned to the land. No pasture becomes more quickly exhausted than pasture let to a dairyman. Feeding cattle do not exhaust a pasture to any great extent, and when such cattle receive a daily ration of foods, like decorated or undecorated cotton cake, or other similar food, the land can be by this means very much improved. In cases where parts of a pasture field become coarse, it is advisable to mow these patches, in order to give the finer pasture plants a chance of establishing themselves."

A Kansas woman who has been elected Police Justice of her city has adopted a novel solution of the tramp problem. The first tramp who was brought before her for judgment was sentenced to two baths a day for 10 days and to hard labor on the stone pile, with the order that he be fed if he worked and starved if he shirked. The prisoner survived the ordeal, but now the first question a tramp asks on approaching a Kansas town is whether the Police Judge is a man or woman.

## The Piedmont Region of the South—"The Best Country Under the Sun."

After the war a heavy emigration began to the West from all the Southern States, which continued several years. In later years, however, the movement has been reversed, and people are leaving the West and are settling in all parts of the South. The experience of those who have lived in both sections is that while the yield per acre is not so large in the South as in some parts of the West, perhaps, yet the net profits for a series of years are quite as satisfactory and life far more comfortable, as the farmer does not have to contend with frequent and protracted frosts, destructive cyclones and caterpillars, and long, dreary, and severely cold winters. Taking into consideration the climate, especially that of the Piedmont region of Virginia, the Carolinas, Georgia, and Alabama, traversed by the Richmond & Danville Railroad system, with its advantages of good markets, cheap lands, pure water, and perfect school systems, unquestionably the "best country under the sun," especially for the tiller of the soil, the manufacturer of cotton, woolen goods, and tobacco, is that situated between Washington, D. C., and Birmingham, Ala., along the eastern slope of the Blue Ridge Mountains, where all classes of citizens are prosperous and happy and a good livelihood can be had with minimum exertion. Outdoor work can be done every day in the year, and storms, destructive alike to life and property, are not feared as in other sections of the Union.

Map folders, showing time schedule and extent of Richmond & Danville system of roads, and circulars descriptive of land climate, etc., can be had on application to the Passenger Department, Richmond & Danville Railroad, Washington, D. C.





BY RUTH HALL.

OT YE GOIN' T' do now, Dan'el?" Sam Norton asked. He leaned forward as he spoke and peered into the other's face with little, twinkling, inquisitive eyes.

It was a dull and hopeless November night. A heavy, gray sky hung low above them. Rain fell, from time to time, in sputtering spurts upon the golden leaves through which their horses made their way down the long hill road. Farmer Wilson was not used to driving in a covered carriage, nor to sitting by himself behind closed doors while some one else held the reins, but it was considered a proper mark of respect to Sarah Ann. He must have a lively team for the funeral; Sam Norton had told him so, and had further hinted that it would be but decent to invite the speaker to a seat beside him. "Ye know me'n her was connected by marriage," was his plea.

The principal mourner had consented, although he did not like Sam Norton; he thought he was spiteful. This was the first speech Sam had made since the house and its following turned away from the country cemetery, and it did not serve to lighten the gloom in which the bereaved man was plunged.

"I do," he said, dully, shaking his head, covered with an unusual best hat; "seems if I'm all lost 'bout Sarah Ann."

"She kep' house for ye a number o' years."

"Twenty-five, come Christmas, I ain't never known twas't be alone before since ma died."

"It was handy," Sam conceded, "I have her man taken away just before your mother; looked most providential, didn't it? Ye won't find no such man 'er as she was in one while ag'in, I tell ye. Wot a chum'n she'd do! An' she always kep' ye lookin' so good. Ye'll soon see your clo'es goin' 't pieces."

He smiled toothlessly and with what appeared to be a keen enjoyment of the situation.

Daniel was goaded by it into an assumption of confidence that he was far from feeling: "I calc'late 't h're," he said, coldly. "Of course I know no one can't do like a man's own sister, an' I s'pose it'll cost like Jehu. But I've got money 'nuf. Tain't that."

"Land alive," expostulated Sam, grinning affish, "ef ye ain't green! D' ye s'pose any nice woman 'd come 't do fer ye, a bachelor livin' all alone? I sh'd think Sarah Ann'd remarked on that before she passed away."



REMEMBER HOW DESOLATE, DANIEL REPEATED.

"She took worse so sudden," faltered her brother, "we hadn't no chance to make plans. I never give it a thought myself. Don't ye think Priscilla Wynkoop—she's real old?"

Sam shook his head decidedly.

"They're th' worst kind, them ole maids. No, sir, they ain't a decent woman in th' town o' Hunter w'd do it."

"Then wot shall I do?" desperately.

"Git married." The grin widened.

Daniel shook his best hat again. "No, sir," he said. "None o' that fer me."

"Beggars can't be choosers," Sam declared. "Ye've got o' do it."

"You ain't?"

"Well, I'm diff'runt," with a complacency that was maddening to the unfortunate man beside him. "I ain't got a farm 't run. I kin board 'n' look after th' store day times. That's all right. Only, ye see, you're situated so unhandy. Ye're got to have a good manager 'round. Now th' question is, who is she? I've b'n studyin' it up considerable."

"Oh, ye have," growled Daniel, not appearing by this show of interest.

"Who've ye pitched on?"

"Wal, they's the Widdler Sal'sbry."

"I mus' say! Deaf's an adder, 'n' weighs oblige to 300 pounds. I'm much obliged 't ye!"

"Wal, Lyddy Potter then?"

"A little withered old woman with a wig. Ain't ye got no sense, Samyell?"

"Wal, they's no many likely wim-men goin'." Ye's terrible particular fer anybody so hard put. How 'bout Priscilla Wynkoop?"

Daniel was glad that they were driving into his own dooryard. He sprang hurriedly out, slammed the door with his clumsy fingers and did not answer Sam. There was no invitation to enter the desolate house and Samuel drove away. "Ye'd better be gettin' about your courtin', whoever it is," he called back, leaning from the carriage window.

Daniel went up stairs to do his overalls and set about his chores for the night. "Durn it all," he muttered, as he milked the cow, "I do know how 't go 't work; I ain't no hand with wimmen."

It was the manner only that puzzled him now. He had decided upon his choice. Years ago, when they were both young, he had "paid attention" to Priscilla Wynkoop and had been graciously received. Then his mother interfered. She did not wish him to marry, and he was dependent upon her. Perhaps the disappointment embittered him. At any rate, he had long been content with life upon his lonely farm, remote from most of his kind, and had no desire for a change. But, since Sam had put what he mentally stigmatized as that "blamed idee" into his head he considered with sudden pleasure the possibility of winning Priscilla for something more than housekeeper or general manager. It was the wooing that counted.

He thought it over while setting out his lonely supper of strong tea and the pumpkin pie that had been sent in. While he munched he ruminated.

What did men say and how did men act? He could not make a bargain with Priscilla as though he were buying a Jersey cow.

"Mus' be some dumb nonsense 'r 'nother," he grimly concluded. "How does it go?"

"A't'r 'clearin' away" he seated himself drowsily over the kitchen stove to await his early bedtime. A paper-covered book lay on the shelf. He picked it up idly—it had been Sarah Ann's—and opened it at random. It was a conventional paper-backed love tale by "The Duchess."

Eight o'clock struck and nine and 10. Still Farmer Wilson pored over the book, holding it close to his sunburned face and breathing heavily over the unfamiliar words. Midnight came. At one o'clock he had laid down the bulky volume with a stentorian sigh. He knew how the nonsense went.

All the rest of that feverish, never-to-be-forgotten night, throughout broken and feverish slumbers, ran such phrases as these: "Oh, my beautiful darling, you will not be so cruel." "You must see how madly I love you." "Remember

There is between full-blooded and scrub stock, and like in all other animals quality tells fully as much in bees. By a proper and judicious selection in breeding a very considerable and marked improvement is possible.

This is about the only season of the year during which bees may be crowded with impunity, and this is the season when the colonies should have no more room than what is actually needed. If you think that a hive is too crowded put in an additional section.

It is not too late now to clean up the hives and other paraphernalia of the apiary. If the hives are weather beaten and almost falling to pieces transfer the frames to a new hive or one which has been put in good repair. Before putting the bees in their winter quarters see that everything is made snug for them.

The following fitting paragraph may be of interest: "One of the best ways of extracting wax is to put it into a large mixing sack. Then put the whole into a boiler of water. As the wax melts it will rise to the surface of the water and then it can be skimmed off and put into another vessel to cool."

No doubt most of the readers of this are aware that almost all extracted honey will in cold weather granulate and become something like sugar. However, this matters but little, as granulation not only improves the appearance of the product, but makes it purer.

Exercise care in collecting honey from the hives to have it as clean as possible. When filled remove at once all boxes or frames, as by this means the bees will not be soiled and the beautiful whiteness of the combs will be preserved from the bees passing over it.

He dressed himself carefully, after an early supper, and marched out of the door and down the road. Priscilla Wynkoop's little, unpainted cottage stood close to the highway. Daniel, his lips moving in ceaseless reiteration, knocked tremulously upon the door. He heard steps coming toward him. He felt all hands and feet. There was a suffocating lump in his throat.

A tall, spare spinster drew the door cautiously ajar and gazed out into the gloom through her spectacles.

"Good ev'nin'," her visitor blurted out in a loud, agitated voice. "Oh, my beautiful darling, you know—you must see how madly I love you, and—remember how desolate my life has been."

Miss Wynkoop held a lamp stretched out in one arm. She brought it closer to stare into his face by his aid.

"Remember how desolate," Daniel repeated.

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Miss Priscilla put up her free hand to rub her forehead. Was he drunk, or crazy, or making fun of her? He saw the gesture and interpreted it aright.

"Durn th' hull dumb thing," he suddenly broke out. "I'm jest—I feel—sakes, how lonesome I be!"

"Dan'l," said Miss Wynkoop, eyeing him closely, but speaking in a quiet voice, "do ye want I sh'd marry you?"

"Yes, Priscilla," wiping his forehead, "I do."

She stood aside for him to pass. "Come in," she said. "I was jes' sittin' down 't supper. It'll be nice 'n' cozy 't have comp'ny, 'n' I've got some cold pork 'n' beans."

She led the way to the kitchen. He followed with heart as light as his footfall was heavy.

"Take a seat 'n' draw up," said Miss Wynkoop, hospitably. "How ye mus' miss Sarah Ann."

"Yes," he sank into a chair. "Them beans 'll relish."

And so they were engaged.—Kate Field's Washington.

Written for THE AMERICAN FARMER.

Harry's Resolve.

MRS. JENNIE M. WILSON.

Have you seen the little sailor suits THE AMERICAN FARMER sends?

They'll suit you and your friends?

With suit complete and extra pants, and a white shirt, each time.

My babies, how can he send so much for a dollar fifty-nine.

Ma says I may save my pennies up as fast as ever I can.

And send for a suit, and a white, too.

For she says it'll lead the van.

Then when they comes I'll put it on.

And show it to all the boys.

Then we'll whistle "Three Cheers for the Farmer Man."

And "You bet" there'll be a note.

## THE APIARY.

Humming.

The smoker in many instances does not act as a safeguard from stings when in the hands of a novice.

The keeping of colonies in a strong state is one of the first precepts of profitable beekeeping. If your colonies are weak look after them and see that they are built up.

The honey crop should be placed where the atmosphere is dry. For this reason a cellar will not do. When honey is properly stored away its condition will remain good for some time.

There is no reason why the farmer should not have a colony or so of bees. Good beekeepers claim that the family ought to be able to raise honey enough for home use at a cost of less than 25 cents per gallon.

It may not be known that a pound of honey will stir into a gallon of water, and set where it will keep warm, and bugs and insects will not get into it, will in a short time be converted into a fine article of vinegar.

The critical period in beekeeping is now approaching. When gathering honey do not rob the bees but leave an amount which will be sufficient to carry them through the winter. If this is done there will be no necessity in feeding them.

There is as much difference in bees as there is between full-blooded and scrub stock, and like in all other animals quality tells fully as much in bees. By a proper and judicious selection in breeding a very considerable and marked improvement is possible.

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"Remember how desolate," Daniel repeated.

Miss Wynkoop held a lamp stretched out in one arm. She brought it closer to stare into his face by his aid.

smokers, uncapping knives, foundation machines, section and foundation fasteners, and a host of minor articles too numerous to mention are on exhibition, and are examined and discussed by the experts, the specialists, the professional apiarists, the amateur beekeepers, and not a few of the Gentiles outside the charmed circle, whose crude notions as to the various uses of the appliances and the manipulations of the apiary as well as their ignorance of the mysterious phrasology and technique of the "beemen," are a source of continual amusement to the initiated.

Then there are several colonies of bees which have been at work all Summer gathering honey from Jackson Park and surrounding country whenever it was to be had; also nuclei in observing hives revealing the inner workings of the "industrious, little bees."

Altogether, the interests of bee culture will be greatly enhanced by the Columbian Exposition, and the general knowledge of the industry and its importance considerably augmented.

The North American Beekeeper's Association has just concluded a very successful annual meeting here, the most successful one probably in attendance and increase of membership since its organization, and it is now, I believe, in its 25th year. Many of the leading apiarists in America were present and took part in its proceedings, and some from across the ocean. Several interesting papers were presented, and the discussion of various questions in connection with bee culture was well sustained and no doubt profitable to many.

Prof. Wiley, official chemist in the Agricultural Department at Washington, was present and addressed the convention. He referred to the adulteration of foods, including honey, and urged the adoption of the most vigorous measures to stamp it out. The honey adulteration took place after it left the hands of the producer. While in a few cases the adulterated article bore the label of a producer or reliable and honest dealer (such as C. F. Muth, of Cincinnati), these imprints were counterfeits. Prof. Wiley's address was well received, notwithstanding the strained relations, quite amounting to hostility, which, up to a few months ago, had existed between the beekeeping fraternity and Prof. Wiley, in consequence of the latter's statement in the *Popular Science Monthly* a few years ago that comb honey was manufactured by machinery without the aid of the bees at all; that the comb was made by machinery filled up with glucose or something else by machinery, and capped over and finished by machinery.

Although this assertion had no foundation in fact, and was at once challenged and denied and denounced by the beekeepers all over the country, it traveled fast through the press to the great scandal and injury of an honest industry. Extracted honey may have been adulterated to a greater or less extent, but not comb honey. After a great deal of bad feeling and hard writing in the bee journals, and an article by the present writer in the *Popular Science Monthly*, where Prof. Wiley's error had first appeared, thoroughly refuting it, and a great injury to the pursuit of bee culture; after all this, there has been a more or less complete reconciliation between the beekeepers and the Professor, albeit a few of the sore heads showed that they still had it in for him by the shower of questions and interjections which he fired at him after his address, good naturedly, however.

Prof. Wiley, official entomologist, also of the Agricultural Department at Washington, was present and briefly addressed the convention, evincing his interest in apicultural experiments and progress.

Mr. J. W. Bender, an antipodean from Australia, being in attendance, was invited to address the meeting, and gave some interesting facts concerning bee-culture in that far-off colony. The Eucalyptus is a prolific source of honey in that country; while with the clovers and other flora there is a period of about nine months in the year of more or less continuous honey flow. As in some parts of the United States and Canada the beekeepers only enjoy a flow of less than that number of weeks (and in some seasons and localities less than that number of days), they could hardly be expected to sit complacently and listen to that without experiencing just a little of the feeling of envy for the Australian, especially when he went on to tell of the tons of honey which a small apiary would gather there sometimes in a short period.

Mr. Bender was asked the question whether there was any truth in the oft-repeated statement that the honey bee, like the human animal, was apt to get lazy, indolent, and shiftless in a warm climate where there was but little winter, and hence but little necessity for laying up food for a cold day as well as a rainy day. He replied that there was no truth whatever in the story so far as Australia is concerned and the honey bee is concerned.—ALLEN PRINGLE.

Very satisfactory results are being realized by a large number of our American manufacturers of agricultural implements at the World's Fair. The Joliet Agricultural Building, Ill., exhibit in the Agricultural Building their Broad Cast Seeder and Peeries Seed Grinders. These are both well known pieces of farm machinery and many good sales have been made at the Fair. The Champion Wagon, of which the Strawbridge Co. are special agents, is exhibited in the Transportation Building. The Champion, by the way, has captured the medal, which is a sufficient recommendation. They will send free to anyone applying, circulars giving full information concerning the above named articles. If interested address them.

A good many writers claim that in most localities the use of honey is nothing like so great as it would be if those who keep bees would put up the honey in a more attractive form and take more pains to bring it to the notice of the better class of consumers.

## APPEAL TO COTTON GROWERS.

Continued from first page.

The result is that the prices here are not fairly remunerative. Conventions have been held in our cotton States to agree upon a reduction of acreage, to thus secure better prices by curtailing over-production.

The Boston *Journal of Commerce* of Feb. 25, 1893, quotes from the Jacksonville (Fla.) *Times-Union* an article from a planter who gives facts as a remedy, as follows:

"You admit a decline in the price of cotton, decreased production is a question, and that the unfavorable condition of affairs is due to the importation of Egyptian cotton, which, although not of so good quality as Florida cotton is cheaper in price. The sea-island cotton grown in Florida was secured principally by the thread manufacturers in the United States and England, and until within the last few years commanded a good price and found ready sale. It was the money crop of the Florida farmer, who realized from 20 to 30 cents per pound for it. A large acreage was planted, and the farmer, whatever might be the fate of his other crops, could always count upon the cash for his cotton crop. How is it now? A few years ago in Florida about this cotton crop, and he will tell you that the price has dropped from 25 cents to 13 cents, and that he can't afford to grow it."

Now, this is the remedy for this evil which has destroyed one of the chief means of agricultural success in our State? Obviously it is to decrease production, so that the foreign cotton as well as the American farmer to compete with the foreign producer in our home market."

But this is not the only form in which cotton is imported. The manufacturers of thread and cloth in this country have been importing 45,761,824 square yards, of the custom-house value of \$5,797,477, besides cotton thread on spools, 1,734,418 pounds; and, added to all this, cotton clothing, knit goods, etc., the total of all cotton manufactured was in custom-house value \$35,500,393.

Some considerable part of this was made of foreign cotton.

On the 12th of November, 1891, I addressed a letter to that influential and able journal, the *Charleston (S. C.) News and Courier*, on the subject of protection for the cotton industry, in which I urged its wisdom, and said:

"Just to the extent to which our manufacturers use foreign cotton, just to that extent do American cotton growers lose a home market."

And I now add, the same is true of cotton imported in cotton manufactures.

The able Editor of that journal, though "opposed to protection on principle," was pleased to say editorially that my article was supported

—"from a most unexpected quarter for the proposed act of justice to the disheartened growers of fine American cotton, and we see no reason to doubt that they will take steps to urge the proposed bill on the attention of Congress, the Secretary of Agriculture, and the President, they can place their industry on the same footing with the wool and tobacco industries at an early date."

This effect on the public mind has been stated, would be introduced by Mr. Elliott in the popular branch of Congress to provide protective duties on imported cotton. There exists the same, and even greater, necessity for protection for the wool industry.

The Statistical Abstract of the United Kingdom of Great Britain, Scotland and Ireland gives the per capita consumption of wool there as six and nine-tenths pounds. See page 107 of the *Pocket Cyclopaedia*, published by the New York Press.

The American wool clip in 1893 was 329,410,542 pounds.

Imports of foreign wool made up in imported cloth in 1893, 114,145,473 pounds.

Total consumption of wool in 1893, 611,989,851 pounds, a total per capita consumption of wool of nine and four-tenths pounds. This calculation is made on the imports of cloth for 1893, at the rate of one pound valuation of \$3.04 per pound, estimating that each dollar of cloth represents three pounds of unwashed wool. In point of fact it represents four pounds of unwashed wool, as it takes four pounds of unwashed wool to make one pound of cloth.

The world's supply of wools is given in Report No. 6, Miscellaneous Series, 1893, U. S. Department of Agriculture. All the wools and all the woolen goods needed in this country should be here produced, as all would soon be, with full and adequate protection. And wool growers are especially interested in the exclusion of some form of foreign cotton.

Shepperson's Cotton Facts says: "Rough Peruvian cotton has a strong, rough, woolly, crinkly staple about one and three-eighths to one and one-half inches long. It is of the tree variety. It is called 'vegetable wool,' and when carded its resemblance is so close and its characteristics so strikingly similar to wool that it could be readily sold as wool to a dealer. When woven into goods along with wool, the cotton fibers cannot be detected, and are subject to rot, except by using chemical tests. This cotton is sold exclusively to manufacturers of woolen goods, for the purpose of mixing with wool. It is all used by manufacturers of woolen goods, and under the name of 'vegetable wool' it is sold where it will do the most or least good, depending upon whether the matter is viewed from the manufacturer's or wearers' standpoint."

The crop of rough Peruvian cotton varies from 15,000 bales to 50,000 bales, and the greater part of it goes to Great Britain. It is put in bales of about 180 pounds. The importation into the United States for the calendar years Jan. 1 to Dec. 31, since 1885, have been as follows: 1885, 14 bales; 1886, 843 bales; 1887, 2,473 bales; 1888, 4,279 bales; 1889, 7,650 bales; 1890, 9,500 bales; 1891, 12,500 bales, estimated. If the framers of our last tariff had known of the peculiar quality of this cotton, they could doubtless have been subjected to a good round duty in the interest of the wool growers of the United States."

I invite the co-operation of cotton planters and wool growers in demanding protection as ample as to protect.

II. Our true policy is to devote a part of our land to growing under proper conditions over-production of cotton, wheat, corn, oats, and some other farm products, to keep husbandry. As to over-production, see *Monthly Report Statistician, Department Agriculture, May, 1893*, p. 150; *Report Secretary Agriculture 1891*, p. 288.

In my letter to the *Charleston News and Courier* I said: "The magnificent States of the South are even now more deeply interested in diversifying their agricultural and other industries than are the other States of the Union. They have an immense area of pasture uncultivated and waste which can be converted into a source of vast wealth. Bermuda grass in the South is equal to if not better than blue grass in the North. Johnson grass in the South is more productive for hay than clover or timothy in the North. In the South sheep require at most only two months winter feeding, in the North five. And it has been demonstrated, theoretically and practically, that sheep husbandry, under proper conditions, can be made profitable in the so-called Southern States. In a report to Congress from the Department of Agriculture in 1878 it is said:

"The 16 States lying between Delaware and Missouri, and between the Ohio River and the Gulf of Mexico, had a population in 1870 of 13,877,615, and two-thirds of all engaged in occupations \* \* \* were in some rural vocation. Nearly half this acreage, amounting to more than 200,000,000 acres, is in wild pastureage of more or less

value for subsistence of farm stock, and much of the herbage is untillable to-day. Sheep do well in these regions, which comprise all the climates and soils of the temperate zone."

The same conditions in a large measure obtain, but with a capacity for sheep husbandry increased by the clearing of lands and the cultivation of grasses.

"Unless the States of the South utilize a portion of their lands with sheep, immense areas must be for a long period unused."

"The vast prairies and plains of Texas, of the Territories, and some of the Western States furnish grass on which mutton sheep can be grazed for a time, but they do not furnish grains to fatten them for market. The time is not far distant when these plains and prairies, with their cheap pasturage, will supply the older States with cheap mutton sheep, as they now do cattle, to be grazed on their tamer pastures and fattened on their grain and other food, thus blending the interests of different portions of the country and yielding profit to both. There is no conflict, but mutual harmony and concurrence of interest, between all portions of the country. Enough has been said to show that we have all the lands to produce all the sheep we need."

"We, the people, have the people's husbandry for the work. With all our industries, there are too many willing hands that are unemployed. If they could find a market which will pay a reasonable price for all the wool we need, they stand ready to produce it."

"The vast prairies and plains of Texas, of the Territories, and some of the Western States furnish grass on which mutton sheep can be grazed for a time, but they do not furnish grains to fatten them for market. The



Established - - - 1810.

74TH YEAR.

THE AMERICAN FARMER.

"O fortunatus nimium sua est bona norat agricola."—VIRGIL.

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TO ALL TO WHOM THIS PAPER SHALL COME.

Greeting: This paper is sent you that you may have an opportunity to see it and examine it, with a view to subscribing. We ask you to compare its contents, objects, and price with those of other papers, and see if you do not come to the conclusion that you ought to have it; that you cannot afford to do without it. We can assure you that if you send in your name for one year that you will find it one of the most profitable investments that you can make. We hope to make and keep it so interesting that you will think that every number more than repays you for the subscription price for a year. Please call your neighbor's attention to the paper.

OUR SPECIAL OFFER FOR NOVEMBER.

Read carefully what we say elsewhere about a Special Premium Offer for November. This is a great chance for some one to get a fine gold watch very easily. The watch we offer for the first prize is precisely as good as any that can be bought in a jewelry store. It is as good as any gentleman or lady wants to carry. We will give it to the one who sends us in the largest club of subscribers in November, no matter what the size of the club may be. It may be that the winner will get the prize for an hour's work among his neighbors. The prizes for the second and third largest club are the best goods of their class, and we warrant them. Those who fail to receive the prizes will still have their regular commissions on the clubs they send in, which they can apply on other premiums. Thus, every club raiser will be certain to get something while standing his or her chance to get a first-class gold watch or a ring or a good rifle.

THE AMERICAN FARMER is so good and so cheap that there should be no difficulty in getting up a good-sized club in every neighborhood.

Let everybody try it. The inducements we offer make it well worth while.

OUR CLUBBING LIST.

The American Farmer will be sent in Connection With Any Other Paper or Magazine.

We will send THE AMERICAN FARMER and any other paper or magazine in the country at a reduced rate for the two. The following is a partial list of the periodicals that we club with:

Name of Periodical. Regular Price. With the American Farmer, \$1.00.

Fanny's Weekly. 100 1.25

Our Little Son and Daughter. 100 1.25

Women's Weekly. 100 1.25

Washington's Magazine. 100 1.25

Life. 100 1.25

Ball's Weekly. 100 1.25

The National Tribune. 100 1.25

SOUTH CAROLINIANS are finding that it pays better to raise fine tobacco than cotton, and the prospects are that tobacco culture will be greatly extended in that State. This is particularly true of the northeastern portion of the State. Last week there were a number of sales in Halifax County, which brought very encouraging prices. E. E. McGill sold 950 pounds, which netted him \$308.75, the prices ranging from 33 to 64 cents a pound, with an average of 32 1/2. S. P. Brockington, of Kingsree, sold his tobacco at from 31 1/2 to 65 cents a pound, with an average of 42 1/2, and J. C. Smoak sold his at an average of 56 cents. W. D. Boyd, of Florence County, sold his at from 25 to 40 cents a pound. There is no doubt that as fine tobacco as there is in the world can be produced in South Carolina, and if the people there will generally turn their attention to raising the best qualities, they will help greatly to reduce our dependence on Cuba and Sumatra for cigar wrappers, etc.

PROTECTION to American farmers is not partisan—it is patriotic.

## THE MYSTERY.

Will any politician explain why with over 4,000 articles on the dutiable list wool should have been singled out, before all others, to bear the main brunt of tariff reduction?

There is a mystery about this that, like the peace of God, or the wickedness of Satan, passeth the understanding.

The politicians have said constantly that they wanted to reform the tariff because trusts, rings, monopolies, combines, and grasping capitalists were fattening off the overtaxed people.

We entirely approve of any reform which will do this. Let the politicians pick out these bloodsuckers, and go for them without mercy, and THE AMERICAN FARMER will do all it can to help on the work.

But is there any "combine," any "trust," any "monopolies," any "grasping capitalists" among sheep raisers? Are there "rings" of wool growers who are gorging themselves with ill-gotten gains?

Where is there a flockmaster who is "sucking the life blood of the people?" Why is it that tariff reform must begin by attacking the slender profits of the millions of farmers?

Does the possession of a few sheep make a man a sinner above all others in Israel?

There is a perfidy and a wickedness about this attack on the farmers that are simply amazing.

The farmers are to be skinned before anybody else is touched; whether anybody else will be plucked is quite uncertain. At this moment it seems more than likely that tariff reform will virtually exhaust itself with taking the duties off wool. The other protected industries will try to throw that tub to the whale.

They are all well organized, and they know just how to make their influence felt effectively. Every one of them have Representatives in Congress who will fight for their special interests to the death, and whom they would send to their political graves if they did not. It looks as if wool could be sacrificed, without any politician being made to suffer for it, and therefore wool will be made the "scapegoat" which is to "bear all the sins of the people away into the wilderness, into a place not inhabited."

Will the farmers submit to this? We hope they will not.

## THE WHEAT MARKET.

The wheat market responds but slowly to the conceded fact that the world's crop is at least 128,000,000 bushels short of the great crop of 1891, and probably 75,000,000 bushels short of 1892. The actual shortage is much greater than this, for the world eats more wheat every year, for two reasons: the first being that the wheat-eating countries become more populous every year, and the second that in those countries the consumption per capita increases annually.

The bears have industriously hammered the price down, though, and made the most of every report that the quantity of grain "out of sight" was greater than officially reported.

In spite of this the price advanced 2 1/2 cents last week, and the coming week will undoubtedly see a much stronger advance, and which will be maintained. We feel that we are not over-sanguine in predicting that it will not be long before wheat reaches \$1 in Chicago.

The exports for the past week reached 3,327,525 bushels, against 2,709,700 bushels the previous week, an increase of over 600,000 bushels. This makes 74,643,149 bushels exported since July 1, against 60,000,000 bushels for the corresponding weeks of last year.

Really, the exports do not concern us materially, as we shall not have much more wheat than we need at home. Their main interest is their effect on the price. This is solely determined by the price abroad. The small proportion that we sell abroad regulates the price of all that is sold to our own people. If our crop reaches 450,000,000 bushels, and we ship but 50,000,000 bushels across the seas, our farmers will get for the remaining 400,000,000 bushels just the price per bushel that the 50,000,000 brought, less the cost of transportation to Liverpool.

Still, the more that is sold abroad just now, the more active will be the home market and the greater the chances of a regular and well-sustained advance in prices.

Why should we buy anything abroad that we can raise at home? This is a political question—it is a common inquiry.

## SHEEP RAISING—PAST AND FUTURE.

Our fathers and grandfathers were successful sheep raisers in their own way, under their own conditions, and for their own purposes. The situation is altogether changed—the conditions of agriculture, the wants of the people, the wants of the manufacturer. The commercial relations are not as they were. The farm economies, the transportation facilities, the opening up of new regions, the competition of other countries in the same products are wholly unlike the past, and require that the sheep industry should be readjusted to these new lines of agriculture, trade, and practice. The relations of mutton to sheep raising are well understood, unquestioned, now, and successful, progressive farmers are shaping their methods accordingly. With these views, there is increased interest in breeds which may best serve the wants of the farmers; there is more interest in intelligent and practical management of flocks suited to the new sheep husbandry that has come to stay. The people have passed the primitive and rude systems that formerly prevailed and were successful, and are looking ahead for that which suits the times and the wants under the new and coming era. There has been a steady turning away from the standards and teachings of former leaders. There is a marked independence, the result of confidence in their own abilities, to work out the new lines on common-sense principles. This growing indifference to the strongholds of former days is sometimes misunderstood. The above conclusions are based on the evidences of purpose among intelligent farmers to remain steadfast to sheep raising, and the lack of adherence to the former teachings and practices.

There are those who fear that the prosperity and permanence of sheep husbandry in this country is over. So it is if the practices of a quarter of a century ago must be followed. The industry is adjusting itself on new lines to the changed conditions, and will be prosperous again.

## AN INCREASING DANGER.

Our cotton growers must awaken to the dangers which menace them from the rapid increase in the importations of Egyptian cotton. The English have for 30 years been laboring to develop Egypt as a competitor to our cotton fields, and they have succeeded only too well. Ten years ago Egypt only supplied one-sixteenth of the cotton used by the world, and to-day she supplies over one-eighth. That is, she has doubled her proportion in 10 years.

The worst feature of it is the way her cotton is invading this country. In 1889 there were 7,973,039 pounds of Egyptian cotton, valued at \$1,194,505, imported into the United States. In 1891 these rose to 20,908,817 pounds, valued at \$2,825,004. In 1892 there were 28,663,769 pounds, valued at \$3,217,521, imported, and for the fiscal year ended June 30, 1893, there were imported 43,381,952 pounds, valued at \$4,688,799.

This means that last year over \$4,600,000 of American gold went into the pockets of the English managers of the Egyptian cotton fields. We know that precious little of this reached the wretched fellahs who raised the cotton.

There is only one remedy for this, and that is a protective duty on cotton that will at least save our home markets for our own planters. The South must develop its cotton manufactures, and utilize its enormous water power to spin the cotton it raises. We should ship cotton thread abroad, instead of raw cotton, thus saving every dollar we can for our own people.

THE AMERICAN FARMER stays by the farmers of the United States in their fight against free wool and wools. The issue is a deadly one and the crisis is close upon us, but the free-trade doctrine is in less favor than it was three months ago. The taste of the medicine is opening the eyes of many people who voted the Democratic ticket last Fall. They wish it was to do over again; the results would be different.

In our last issue the suggestion of petitioning Congress was urged, and again we would say petitions are all that can save the wool industry of the country against a terrible disaster. The time is getting short, and there must be prompt and persistent action all along the line or all is lost.

JOHN RANDOLPH, the old cynic, said that he "would go out of his way any day to kick a sheep." He seems to have many successors among politicians.

## WOOL IN CONGRESS.

Up to the time of going to press we have received 142 answers to our letters to Senators and Representatives, asking them to define their attitude on the wool duties. As there are 85 Senators (3 vacancies) and 345 Representatives (2 vacancies), or a total 430, this represents about one-third of the entire number. We hope to have answers from nearly all, to publish in the next issue of THE AMERICAN FARMER.

Of 85 Senators 21 have answered. Of these 16 are unqualified for retention of the present duties on wool, 1 is for their total abolition, 1 declines to answer, and 3 reserve any expression of their views until a bill is presented to the Senate. It may safely be assured that these will support a modification of the wool duties, retaining a protection proportionate to that on other American products.

Of the 121 Representatives 61 favor the retention of the present duties, 37 favor their total abolition, 20 will wait till the bill is before the House, and 3 favor some protection to wool.

## HELP US IN THE FIGHT.

THE AMERICAN FARMER is engaged in a great fight for farmers' rights, and should have the support of every farmer in the country. It is making this fight on thoroughly non-partisan grounds. It cares for no man's political affiliations—only whether he is a true friend of the farmer or not. It believes that the test of that friendship is whether he is willing to vote for protection to farm products which are injured by competition with the products of foreign pauper labor. We believe that our own soil should be made to raise every farm product that our people need, and that the money for the same should go into the pockets of our own farmers.

Every farmer should be with us in this struggle for his interests. If he believes we are right, let him show it by sending in his own subscription at once, and asking his neighbors to do the same.

## AN APPEAL TO COTTON GROWERS.

We give up much of our space in this issue to a most important communication by Hon. Wm. Lawrence, President of the American Wool Growers' Association. It is an appeal to the cotton growers to make common cause with the wool growers for mutual protection. This is a necessity of the near future, if not of the present, and the sooner the cotton growers awake to its necessity the better it will be for them and the whole country. The article should have the most careful perusal and consideration.

## WHY IS THIS SO?

The Cotton Trade News, of London, England, is the highest authority in the world on the grain trade. It has recently published an exhaustive compilation of all the trustworthy information obtainable as to the wheat supply, and tabulates the results as follows:

Crops in	1893.	1892.	1891.
Europe.....	167,000,000	171,000,000	153,000,000
The Americas.....	65,000,000	86,000,000	97,000,000
Asia.....	43,000,000	35,000,000	41,000,000
Africa.....	4,500,000	4,800,000	6,000,000
Australasia.....	5,100,000	4,600,000	4,100,000
Total crops.....	285,100,000	301,400,000	301,100,000
Gazette avg. price per qt. last Nov. 1.....	25 1/2	26 1/2	41 1/2

Here we have a total yield of 16,000,000 quarters—128,000,000 bushels—less than two years ago, and yet the price is 16 shillings 3 pence a quarter, or nearly 51 cents a bushel less.

Who can give a good reason for this? The progress of agriculture must constantly bring closer association and more active co-operation among farmers. High-priced machinery, that can only be used a part of the year, expensive breeding animals, and similar needs will bring farmers into co-operative partnerships. The good work started by the Grange years ago in the way of bringing farmers into closer social and business relations with each other must go on developing indefinitely, and reap richer fruits every year.

It is hazardous to predict the value of hogs next year, but the chances are that the price of pork will be kept up—if not to the mark of the last two years—still to fairly good figures. Europe will be very short of meat next year, on account of having killed off so much breeding stock this season, and this argues good prices for pork, beef, and mutton.

If you believe that farmers have rights which politicians are bound to respect, get up a club for THE AMERICAN FARMER.

THE AMERICAN FARMER is only 50 cents a year.

It is simply absurd to talk about free trade giving us enlarged markets abroad. Nobody is going to give us any more for what we produce, or buy any more of us, because we have free trade. Business is not done on a basis of gratitude or friendship. The Englishman who buys a bushel of American wheat does not let the fact of our having free trade or tariff have the slightest effect on him. He simply wants a bushel of good wheat, and he goes into the market to buy it as cheap as he can. If he can buy Russian wheat one-tenth of a penny a bushel cheaper than he can American, Australian, Argentine, or Indian wheat, he buys the Russian wheat, and vice versa. It is childish prattle to assume that he is going to buy more wheat than he wants or needs just because we have favored some countryman of his by letting in the latter's goods free of duty.

It has been believed that the finest grade of cotton spinning could not be done in the South, because the air there lacked the humidity to be found along the New England Coast. But the New Englanders have found out that it is much better to control the atmosphere in their spinning rooms than to rely on natural conditions. They keep up just exactly the temperature and humidity that is desirable in their spinning rooms, so that their work can go on all the time under the proper conditions. This removes the last objection to filling the South with cotton factories which will work up the entire product of the fields, and export it as thread and not as raw cotton.

THE repeal of the so-called Sherman Bill is now a certainty, and we can begin to look for the good results which we were promised would follow that step. Whatever we may think of silver in the abstract, there is one thing that cannot be denied, and that is, that all the business men and bankers were much frightened about the continuance of the law, and would not venture upon any enterprises or investments until it was out of the way. Since the bugaboo is substantially out of the way, we trust they will make up for lost time and set business to humming for the remainder of the year.

NO BETTER proof of the non-partisanship of the question of protection is needed than the action of the Florida Legislature, which is almost solidly Democratic, and which recently passed by a practically unanimous vote a joint resolution requesting the Senators and Representatives of that State to secure the passage of a law imposing a duty of \$3 per 100, or \$2 upon every box, barrel or crate of four cubic feet capacity of pineapples imported. Of course, the importers will fight this bitterly, and we shall hear denunciations of the "poor Crackers" who have the impudence to ask that they may be allowed to make some money, instead of the importers making a great deal.

THE figures seem to demonstrate the effectiveness of the sugar bounty. In 1891-92 the Treasury paid bounty on 358,000,000 pounds of sugar, and on 429,243,170 pounds last year. This year the Bureau of Internal Revenue figures that a bounty will be claimed for 691,449,000 pounds, which will mean a much bigger crop than was ever raised in the best years before the war. The Louisianians think that if the bounty be allowed to run its stipulated term of 15 years they will raise all the sugar the country needs.

AN hour's work canvassing for THE AMERICAN FARMER may bring you a fine gold watch, a jeweled ring, a sewing machine, or a rifle. It will certainly bring you something, for there are no blanks in our scheme. It is the best chance ever offered club raisers. Remember that we give the prizes to the largest clubs raised during the month, no matter what the size may be. It may be that the gold watch will go to the getter-up of a club of only 25 or 30 subscribers.

THE experiment of shipping Florida oranges to London has been very successful. The steamer "Campania" took to England 216 boxes, which went off readily at an average of \$3.43 per box. The "Germania" carried 1,000 boxes more, which are now about due in London.

THE corn market continues to show more life than wheat, and the exports so far this year are 19,500,000 bushels, against 9,500,000 bushels for the same period of last year.

THE California grape raisers are making an effort to have Congress put a duty of two and a half cents a pound on all Zante currants imported, as a means of promoting the sale and use of low-grade domestic raisins. We hope that this will be done. In 1892 we imported 36,665,728 pounds of Zante currants, valued at \$1,209,095. This would make a pleasant addition to the yearly receipts of the fruit growers of this country.

An experiment, the results of which will be watched with much interest, is that of shipping hay from Colorado to England, by the way of Galveston. A Denver firm has contracted to ship 5,000 tons in this way, and thinks that it can lay the hay down in Liverpool for \$12.75 a ton. If so, it has a profit in sight of at least \$40,000.

MICHIGAN wheat made an unexpectedly good showing this year. The average yield of the southern Counties was 15.36 bushels per acre; of the central, 13.99 bushels, and 10.40 for the northern, making the average for the whole State 15.01 bushels. Oats averaged 26.91 bushels per acre, and corn 48 bushels.

DR. ERNEST HART, editor of the British Medical Journal, said in a recent address before the New York Health Association that "the cholera has not been dreaded than any other disease." It is perfectly controllable. It cannot be caught, and can only be eaten or drunk.

THE question now before us is whether the farmer has any rights that the politician is bound to respect.

## COMPLIMENTS.

I like your paper very much. It is of unusual value to the farmers. I do not know how it should be able to get along without it. —E. F. MILLER, Haydenville, Mass.

I fully believe that farmers would do much better with their farms if they would read some good paper like THE AMERICAN FARMER, which seems to have all the latest experiments of practical benefit to the tillers of the soil. Besides, it gives the Washington news, which, to my mind, should be worth much. We want to learn what "those fellows" whom we have sent to Washington are trying to do besides drawing their pay. —J. R. PILKINGTON, West Newbury, Mass.

## PERSONAL.

Ex-Secretary Rusk has been quite sick with bilious fever the last 10 or 12 days at his residence in Virque, Wis., but at last advice is improving.

L. L. Gilmore, of Darlington, S. C., lost a very fine barn of tobacco by fire last month, and had no insurance. His loss was evidently the work of an incendiary, as he died in no other way to account for the fire.

H. H. Goff, of Spencerport, Monroe Co., N. Y., and for many years Secretary of the New York Grange, has been nominated for the State Constitutional Convention, and will undoubtedly run for election as such, as he will get votes from farmers of all parties.

Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, Department of Agriculture, has returned from a protracted absence at the World's Fair, in company with Secretary Morton. These gentlemen were engaged in investigating the methods of meat inspection and the condition of the slaughter houses on exhibition at the Exposition.

S. H. McGill, Darlington, S. C., suffered the loss of his entire tobacco crop, 13 barns, cured and stored in his large packing house, by fire Oct. 20. His loss is very heavy, as only \$1,500 is the amount of insurance on the tobacco and buildings. Three of the barns were of the finest grade wrappers, and only a few barns were of inferior quality. The fire was clearly the work of an incendiary.

W. H. Daniels, of Forest River, N. D., while in Minneapolis recently said: "We have a very good wheat crop this Fall, but the price is so low that everybody is hard up. When I left Forest River the price was 45 cents a bushel, or less than we once figured it cost to raise it. The price has since fallen to 30 cents a bushel, and we have no chance to get it up. The price is the lowest it has been for many years, and we cannot understand why it should be worth so little."

The Liebig medal has been conferred on Prof. E. W. Hilgard, of the Agricultural Department of the California State University, for his pamphlet published last year by the United States Department of Agriculture, entitled "A Report on the Relation of Soil to Climate." The report has been translated into French, German, and Russian, and has been highly praised by foreign authorities. The Liebig medal was founded by Baron Julius von Liebig, and is awarded by a board of curators resident in Munich, of which Dr. von Pettenkofer is President. This makes the second time that the Liebig medal of Europe has been awarded to a California man, the other being the La Cando medal to Prof. Barnard for his discovery of the fifth satellite of Jupiter.

## NOTES.

Frank Leslie's Popular Monthly for November is full of good things, and as there is a great deal of it the good things are abundant. Published at 110 Fifth Avenue, New York. Price, 25 cents.

We have received the premium list of the State Agricultural and Mechanical Society of South Carolina for the 25th annual fair, which will be held in Columbia, S. C., beginning Nov. 6 and ending Nov. 10. There is an unusual number of premiums prepared for the coming event, which shows up well for the old established society.

Washington's Illustrated Magazine for November, contains: The Hamona Indian School; A Calm Flower; The Science in Feathers; Married by Accident; Genius; "Lias," a Character Sketch; Random Notes on Hawaiian Life; The Wind Among the Maple Boughs; "Kisses"; Departments. All handsomely illustrated. Published at Hartford, Conn. Price, 25 cents.

We have just received a copy of the greatest home song ever published in this country, "Don't Gently With the Erring!" The privilege of publishing in America alone cost \$2,000 in gold. It is a song that will reach the heart of every Christian in the land. The melody is beautiful; can be played on piano or organ. Price, 40 cents. Publisher, F. W. Helmick, 205 Sixth Avenue, New York.

The November Harper's Magazine is the concluding number of the 87th volume. It opens with the second installment of Edwin Lord Weeks's richly illustrated account of his journey across Persia by caravan, which grows in interest, and has to endure the rigors of travel. William Black's novel, "The Handmade Home," is finished in this number. Richard Harding Davis writes of strong powers on the Indian Territory, by Kozma W. McAdam, and "Aristocracy," by Frederick R. Conder; a description of Arden Louisiana, by Julian Ralph; a discussion of "The Decadent Movement in Literature," by Arthur Symonds; a description of "Hides of Turkey," by Col. T. A. Dodge, and four short stories, including an "imaginary portrait," by Walter Parker, called "Apollo in Placidy."

## WHEAT SOWING.

The Best Manner of Preparing the Seed Bed to Hold Moisture.

EDITOR AMERICAN FARMER: The last time of winter wheat is sowed by the first of November, and it is of great importance that the seed be sown in the best manner possible. The first few months after it has been sown, if it is lucky enough to pass through these months safely, the plant is sure to be deeper rooted and stand a number of storms. Each grain sown yields as much as 60 to 100 fold.

While we find that the average yield of wheat does not exceed 12 or 13 bushels per acre, it may reach some years 15 bushels per acre. The time has come when we should study and prepare to make the wheat grow as well as possible. There is no money in wheat at this time, as the prices for the best grades are very low. The man who makes the money in wheat is the man who raises the most on his ground. The man of 1892 was one of the largest ever known, as it made an average, I believe, of 15 bushels per acre. This was the largest wheat crop ever raised in the United States.

Wheat cannot stay long at the present prices. The increase in the population and foreign demands will be found to raise the price. It is only a question of time when you will see all the productions of the farmer on the upward side of the scale, and the life of life and they cannot be kept down very long. But it is economy for the farmer to raise the wheat as cheaply as possible, so as to make the most money out of it. Some say Congress is the one to settle this question. The Congress of the United States has not in its power to control the over-production of the farmers. It can regulate the money market and come to the relief of the farmer in that way.

It is not possible often to grow by the acre a crop of wheat under the best circumstances or conditions for a large yield. In some States the snow banks near fences, smothering the wheat out where it lies, and other parts of the field is unprotected and is left naked. The great wheat lands of our country that had timber for their protection are now cleared up, and the winds sweep over them, thus making the conditions much poorer for early wheat and destroying the part of the conditions that nature has made so good.

There are two ways of sowing wheat. One of the best is to make your ground rich. A little fertilizer on your ground pays a big interest on the money and time spent in work on the same. The best plan is to prepare the seed bed in such a manner that the fertility of the bed will be near the surface, thus insuring a spreading habit of the growth of the wheat of both roots and tops. The most important is the growth of the top, as it is said that wheat needs a large top to stand the chilly blasts of the hard winters. The character of the top is more important than its size. If wheat is sown during the hot weather and springs up without spreading, it will in the winter of cold it will die out. In winter worse than what snow so late as to not make so much top. Some of our worst failures look like the eye of the inexperienced the Fall before.

The practical wheat growers of the United States agree that the land for sowing should be well broken for a seed bed, made moist and mellow with a harrow to fine and pulverize the soil and follow it with a roller. The farmer should not sow seed in a cold, hard, and dry soil, but should wait until the soil is mellow and moist, and each day toward night drag and roll down all that has been plowed. By this you hold what moisture there is, as generally some moisture is in the newly turned soil. If you wait until you get a hard frost, you will find that the soil will be dry and cold, and you will find that the seed will not grow. This is the consequence of this if you do not have rain at the proper seeding time to germinate the grain? You do not get a good stand at the proper time, and thus make a failure in your crop.

At the time of early plowing under the stubble you turn under much silt, such as green weeds and a mixture of weeds and grass that help to keep the soil moist, and to hold the moisture. If soil is compacted at this time it holds the moisture much better, giving out the fertility of the weeds as they rot, enabling the soil to be better compacted than it would otherwise be. The compact soil is good for wheat in any climate, as it is important for the best growth. In the South by this method you are enabled to stand the drought of the Spring if you should have one, or of the Winter and Fall. There is always enough sowing and turning up the soil to lighten the soil and cause it to hold more water and to expand, and eventually your soil gets looser. This is why you should compact your soil early.

In the South you have just enough cold weather and rain to cause the soil to expand and get lighter; you will know that a mucky soil is one of the best for corn, but poor for growing wheat. If you have much land under-drain it and compact it, and you have the best of wheat land. Moisture is important for corn packing soil, as it presses closer together the particles of soil without preventing

















## THE FENCE CORNER.

### A Song of Fall Time.

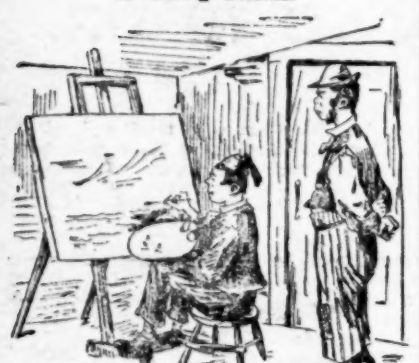
The days are comin' shorter, an' the nights are comin' longer.  
An' the whippoorwill's a-whippin' of the valleys with his song;  
An' the moon's a-shinin' a day off, an' an' are feedin' round the stump.  
An' you hear the hounds away off, an' the rabbit's on the jump!

Let 'em run!  
Gilt your gun.  
An' you'll win 'em—every one!  
It's Fall time in Georgia,  
An' the boys are havin' fun.

O, the meller, yellor Autumn—or the Fall, or wh't you please!  
When the gold is in your pocket, an' is growin' on the trees!  
Ah! you hear the partridge whistle, an' you hear the rifle ring.  
An' the doves—they come a-tumblin' as you take 'em on the wing!

Let 'em run!  
Gilt your gun.  
An' you'll win 'em—every one!  
It's Fall time in Georgia,  
An' the boys are havin' fun.

A Rising Genius.



Proud Father—You're callin' yer picture "The Drowning Man," Moike, but where's the man?  
Moike—Faith, sor, he's sunk, don't yer see?  
Father—Begorra, Moike, you're a rare genius!

What He Could Do.  
A Judge in crossing the Irish Channel one stormy night knocked against a well-known witty lawyer, who was suffering from seasickness.  
"Can I do anything for you?" said the Judge.  
"Yes," gasped the seasick lawyer; "I wish your lordship would overrule this motion!"

A Lost Opportunity.  
A lady told a party of friends that she had quarreled with her husband, and had planted a tree in memory of this, their first falling-out.  
"What a splendid idea," whispered another lady in her husband's ear; "if we had adopted that plan we might have had by now a fine avenue of trees in our garden."—Der Schalk.

A Growing Place Always.  
"Good morning, Katy," said the Saunterer.  
Katy made a courtesy.  
"Where have you been this morning, to the cemetery, yer honor, and oh! it would amuse yer to see how the place has grown!"

Rural Advantages.  
Stranger—I understand that there has never been a court case in this neighborhood. The people here must be very peaceable.  
Farmer Wayback—Tain't that; but you see the Squire lives so far away that by the time we get there we forget what we was quarrelin' about.—New York Weekly.

### A Moonlight Delusion.



Ephraim—Fo' de Lord's sake, what am dat?



"Well, ef it ain't nothin' but Uncle Ben a-leadin' dat ar' mule o' his'n!"—Judge.

### Knowing Parsons.

There is a story of a gentleman who inadvertently slipped a blue poker chip into the church collection plate, and then called upon his pastor with an apology for his carelessness and a silver dollar instead of the chip.  
"Oh, no," said the man of God, knowingly, "that's not enough. A blue chip is worth \$5 in your game."  
An Oklahoma divine was even shrewder.  
"The collection will now be taken," he said, "and I wish to remark further that poker chips don't go any more. Get 'em cashed before you come and bring the money. I am forced to this decision by the fact that some of the brethren have been shoving off chips of their own make on us and letting the laugh be on us when we went to get them cashed at the Dewdrop Fortune Parlors.—Floating.

### An Apt Reply.

A country doctor in the north of Ireland was driving down a narrow lane on the way to visit a patient, when he espied an old woman in the middle of the road picking up some pieces of turf which had evidently fallen from some passing cart. Pulling his horse up to prevent running over her, he said, rather sharply:

"Women and donkeys are always in the way."  
"Shure, sir," said the indignant Irish woman, as she stepped to one side, "I'm glad you've the manners to put yourself last."

### A Change of Feeling.



Got His "Foot" In It.  
"I didn't like your cake very well to-night," remarked Gus De Smith to his landlady.  
"No?" queried she. "What was the matter with it?"  
"It seemed to me it was a little short."  
"I have noticed the same failing in you, Mr. De Smith," was the terse reply.  
And De Smith borrowed enough from friends to pay something on account.—Texas Siftings.

Somewhat Mixed.  
"Morality, it's home you should be going. Ye're drunk."  
"Bedad, Oi'm not, soir."  
"Ye're drunk, Oi say."  
"Oi'm a liar, then, Phelim O'Reilly?"  
"No. Ye're just drunk."  
"Ye wouldn't say that if Oi was sober."  
"If ye was sober ye wouldn't deny it!"—Life.

The Only Difference.  
Mrs. Wickwire—What is the difference between me and a chicken, dear?  
Mr. Wickwire—About 35 years, I guess.  
Mrs. Wickwire—Oh, you hateful thing. That isn't the answer at all. The chicken is killed to dress, and I am dressed to kill.—Indianapolis Journal.

Wonderful Cures of Catarrh and Consumption by a New Discovery.  
Wonderful cures of Lung Diseases, Catarrh, Bronchitis and Consumption, are made by the new treatment known in Europe as the Andral-Broca Discovery. If you are a sufferer you should write to the New Medical Advance, 67 East 6th Street, Cincinnati, Ohio, and they will send you this new treatment free for trial. State age and all particulars of your disease.

## THE DAIRY.

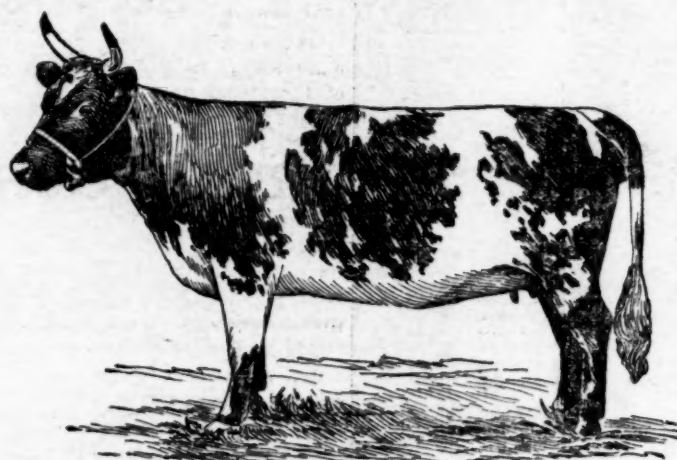
### On 'Change.

They had a breeze last week in the New York Mercantile Exchange over the alleged negligence of the Dairy Commissioner in enforcing the oleomargarine law. It was charged that offers have been made by a well-known Western house to supply oleomargarine direct to customers and allow sellers 5 per cent commission. Direct charges were made against Assistant Dairy Commissioner Van Valkenburg.

The latter in his defense said: "I state openly that the metropolitan district of the Department of Agriculture requires \$100,000 a year to keep out adulterated milk and butter. Give me that and an additional force of 20 men, and I would defy the gang, which is indefatigable in its work."

### Beauty of Holohouse.

Mr. Cross's splendid Ayrshire is a fair representative of the Scotch dairy cow. She carried off the first prize of cows three years old at London in August.



She was sired by Prince Carillon 1691, her mother was Cherry 5th of Holohouse 5199. She is thus described by an eminent judge of cattle: "Color, rich brown and white, fine bones and short legs, milk vessels well joined to body so that it is not easy to tell where the one ends and the other begins, teats of proper size and in right place, body not large, but as near perfection as one could wish."  
If Beauty Holohouse is well handled she will be conspicuous in cattle shows for several years to come. After her usefulness as a dairy cow has been outgrown she will probably take on flesh and be as desirable to a butcher as a young cow.

### THE WINTER DAIRY.

The Proper Management to Produce the Best Results.

THE READERS OF THE AMERICAN FARMER will remember that last Summer and Fall I wrote several articles on silos, ensilage, and the dairy business, intending to follow them with more until I had fully touched upon the most improved methods of the present time dairy.

As I am now enjoying the full benefit of a Winter dairy conducted in as perfect a manner as has been my good fortune to witness, I will give to your readers a description of the means used to make the best of gilt-edged butter cheaper per pound now in Winter than any farmer can make it in Summer time. I have a good, warm dairy barn, and silos and ensilage for foundation of the work. Nothing can be done in Winter time to good advantage without this help.

My present dairy barn was built five years ago, and with five Winters' experience in this manner of dairying, and over 20 years' experience in the old, cold barn, dry hay, and grain feed, I feel confident now and know the advantages of the modern method. The barn is 34 by 60 feet, with stone basement eight feet high, and a good high one and a half story above it made of wood, ceiled up and painted very nicely. The basement floor is made of water-lime, and sand five to six inches deep, resting upon a cobblestone floor eight to 12 inches deep to serve me better for underdrainage and sure foundation.

In the stable we have two long mangers 52 feet long, divided into spaces of four feet each with stanchion fasteners. These mangers are made of two-inch planks for floor, two feet six inches wide and three feet high on front side or feed alley side. The alley side of the manger is made of nice planed and matched lumber; so also is the front end partition which goes clear up to the chamber floor, and are then painted white. The doors and windows are also painted, so it makes it very light and pleasant in the barn. At both front ends of the barn in the alley way by these partitions we have a milk bench to set the milk pails on when the milking is done, so it will be kept clean, and empty our pail into these every time we milk a cow, so as never to lose but one cow's milk at a time should trouble occur.

On these partitions our stable hands hang their overalls and blouses when stable work and milking is done, and never carry stable smells into the house to create unpleasant remarks from the women. The cows stand on raised platforms with two inch incline from stanchion to manure gutter, and the platform is four feet seven inches long, exactly right for large Guernsey cows that weigh from 1,200 to 1,300 pounds apiece. The manure gutter is six inches deep and 18 inches wide, perfectly liquid tight. I use as absorbents straw, leaves or sawdust to utilize this liquid manure. Back of these gutters we have raised plank walks against the stone walls three feet wide so we can walk behind the cows and keep our feet clean. These things are all made of two-inch plank. In the man-

gers we have plank partitions made of 2x10 inch plank every four feet, so that it is the amount of room allotted to each cow, and it is ample to go between them and card and brush them clean, which we do once or twice a day. We keep the platform well covered with straw bedding and clean off the manure often, and our cows always keep clean and we then have pure milk, which is absolutely necessary to make gilt-edged butter. On top of these feed box manger partitions we have a water trough 52 feet long, made V-shape out of 2x8 and 2x10 planks spiked together. We give one inch fall only from front to back end of each manger. In front of the barn we have a good well 26 feet deep, and from this we pump the water and carry it through a 2 1/2 inch hose pipe from pump to troughs. In this manner our cows can drink in peace and harmony and always get enough, which increases the flow of milk wonderfully. Above this basement floor are four silos 15 feet square inside measure and 12 feet deep, made of wood with single thickness one inch board ceiling, none of it over four inches wide, planed and matched. The studding upon which this ceiling is nailed is 2x8. The floors are made of



the same ceiling lumber and rest on 3x12 inch joists 12 inches apart—2 rows bridging in each tier of joists and held up by manger posts below.  
These silos were filled the first week of October with a little over 200 tons of well-matured corn ensilage, and it is ample ensilage to feed 40 head of cattle six months of the year. We feed this night and morning to our cows, a little over one bushel to a feed, and in this ensilage will be fully four quarts of corn-cob, and all cut up in short pieces, which is warm and soft and in its most digestible form. Some cows will eat more than others, but we aim to give each one all they will eat up clean before they lie down to rest. At 11 a. m. we give them a feed of dry hay, all they will eat up clean by one o'clock and after, then they will drink water freely once a day. They will not drink either night or morning, because the ensilage feed is so moist. This 200 tons of ensilage and the hay I use besides does not cost me \$300 to raise it, harvest, and put it in the silo, and it is the cheapest manner a corn crop can be disposed of, and no miller's toll is taken out of the crop, but the cattle get the whole thing. Thus, you see, it does not cost me \$8 per head to Winter cows and get this large flow of milk in Winter time, while it used to cost me on the old plan of dry hay and grain feed about \$20 per cow, and we could not get but very little milk in Winter time, which made poor business of the Winter dairy.

My cows never go out in cold wind or storms of any kind in Winter time. They have nothing to do but eat and sleep in a good, warm barn. Carding them off once or twice a day makes it unnecessary to turn them out doors.  
I have another cattle barn in which we keep our dry cows and young stock, and all are fed from the silo pits.

Our feed shutes from the silos above go into the feed alley between the two mangers, and anyone can soon learn about how much to throw down for a feed each time, as it is very important to have it fresh and warm from the pit each feed. This chapter is getting so long I shall have to leave the better making for next issue.—H. TALCOTT.

### What One Herd Discloses.

Very recently there was published in an article on the care of dairy cows statistics which fully prove that a man feeding at random, and keeping cows that have never been tested, is working absolutely in the dark, and if he succeeds it is merely through accident.

Facts very startling to the thinking man were disclosed. Out of this herd of 60 cattle, some Holstein, some Jersey, some grades, and some common cattle of unknown ancestry, the cow returning the greatest amount of butter accounted for food eaten was the common native. Undoubtedly prior to the test the presumption was all against this cow. This shows that breed does not always tell, and is consoling to the farmer who is not able to stock up entirely with thoroughbred or even grades. The second native cow beat all of the Jerseys, so that even the rich farmer cannot afford to rely entirely upon blood. An average of 27 pounds of food was consumed for one pound of fat, ranging from 17 to 47 pounds. The larger cows consumed a smaller amount of food in proportion to their weight than the smaller ones. The best yield of milk gave the best yield of butter.

The entire test shows us what an individuality there is in cows, and that breed and color and good marks and appearances in general must not allow us to lose sight of the paying qualities of one and the losing qualities of another.

Send for catalogue of Folding Sawing Machine. 9 cents in 10 hours. Folding Sawing Machine Co., 241-49 S. Jefferson St., Chicago, Ill.

## THE ORCHARD.

### Cullings.

If you leave any trees in your orchard which have been blown down or have been killed, remove them and set out new trees.

It would be well for the orchardist if more Winter apples, pears, or other late fruit is planted. Now is the best time of observing the wisdom of doing this.

Now is the time to prepare the young trees so that the ravages of rabbits will not injure them. Do not delay this, as it may mean a considerable loss to you.

In the future the orchardist will consider the Bordeaux mixture and kerosene emulsion as a necessity for the success of his fruit trees in yielding a good crop.

If you desire to leave an inheritance to your children, set out a few walnut or pecan trees. They can be purchased cheaply of any nurseryman, and give excellent returns.

According to those who advocate Fall planting, now is the best time to set out trees. Many who have tried Spring and Fall planting claim that the latter have always given the best results.

The Champion and Meech's Prolific quinces seem to be the chosen varieties of those who grow this fruit, notwithstanding the praise of the Orange variety, which Prof. Elliott wrote of in our last issue.

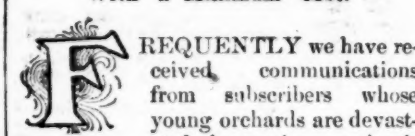
Trees which are planted in the Fall become thoroughly settled and get a good roothold. In addition to this, they have the entire Spring and Summer for their growth the first year, which is of great advantage.

Marketing the apple crop is now in order. Remember the words of advice which have appeared in these columns on the advantages of assorting and the care which should be given when they are packed for shipment. If this is done your receipts will be above those you would have received had you sent the fruit to the market as it was collected from the trees.

Dr. Kedzie, of the Michigan Agricultural College, made a series of experiments by analysis to determine the actual comparative quantity of nutriment in different kinds of fruit, taking an egg for the standard weighing over an ounce and a half. He found this to be equal in actual nutritive power to 17 ounces of heart cherries, 22 ounces of grapes, 30 ounces of strawberries, 40 of apples, and 64 of pears. But these numbers do not show their positive value as food. Well ripened and in moderate quantities, they assist more in digestion than many richer foods, and they promote the healthy action of the digestive system, a most valuable service.

### A TREE PROTECTOR.

A Detailed Manner of Construction With a Minimum Cost.



REQUENTLY we have received communications from subscribers whose young orchards are devastated by various animals asking for the best preventive. In our issue of Oct. 1 we had a general article on this subject. The present one, in addition to giving illustrations, will deal with the cheapest way of constructing such to prevent the ravages of rabbits.

The wire used is about No. 18 in size, and may be of iron, brass, or copper. Brass and copper are more durable than iron, but their greater cost will overbalance this advantage. As a rapid means of measuring off the wire it may be



wound lengthwise about a piece of board 18 inches long for an eight-lath protector or 16 1/2 inches if seven laths are to be used. The wires may then be cut at one end of the board with the cold chisel or tinners' shears. The protectors may be rapidly put together on a common work bench by means of the simple device shown in Fig. 1. Procure a piece of strong elastic wood about four feet long and three-fourths of an inch thick to serve as the spring shown in the drawing. Then tack two blocks to the top of the bench near the rear side to serve as a support for the spring. Now, drive three nails into the bench near the front side, at the distance apart at which the wires are to be placed on the protector. The end wire should be about three inches from the end of the laths. Next, twist the ends of the wires together for a short distance, beginning about three inches from the end, and place one of the wires about each of the nails in the front of the bench, as shown. Place another shorter wire, having the ends bent into hooks, as shown at the left side of the drawing, about the outer end of the spring and slip the first lath through the

six wires, as shown in the drawing, bending the springs sufficiently to make this possible.

The spring now acts as a tension to keep the wires taut. Insert the second lath, lifting up the lower strand of wire and slipping the lath between that and over the other strand, thus crossing the two strands. Then with a hammer gently drive up the second lath toward the first till the two are about one-fourth

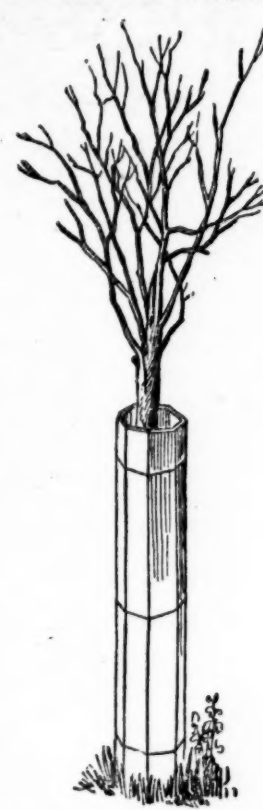


FIG. 2.—THE PROTECTED TREE.

of an inch apart. Insert the other laths in the same manner, after which unhook the wire connecting the spring with the first lath and loosen it from the protector. In placing the protector about the tree, simply bend it around and insert the free ends of the wires beneath the wire of the first or second lath, clinching it enough to hold securely, as shown in Fig. 2. The protector is to be left on Summer and Winter, until the tree outgrows it or the wires rust off. The protector not only prevents sun-scald on the trunk, but is an effectual preventive from rabbits and other rodents, as well as from whiffle-trees used in cultivation.

### OUR COUNTRY ROADS.

The Difference in the Construction of a Well Built and a Poor One.

One day not long ago a man who had worn shoulder straps in the Union army was riding over a wrinkled stretch of prairie road. The road is in a County not far from Chicago. The State might be Indiana, Illinois or Wisconsin. Any one of them could furnish the road. It was a road which appeared to have warped in drying. The middle of the ridge was fluted like a washboard. At places the ruts broadened and deepened into holes large enough for graves. It was slow traveling, for the light buggy lurched and struggled on its squeaking springs. The old soldier held on with both hands and delivered himself of this opinion: "If I'm ever in service again and want to cover a retreat, I'll detail a Township Supervisor to stay behind and work the roads. It'll be just as good as burning bridges."

This road had been "worked"—in fact, overworked.

The neighboring farmers had plowed it lengthwise and crosswise. Afterward they seaped the dirt up toward the center and left it there in picturesque heaps.

They would have done something more, but they finished working out their road taxes when they got that far and went back to their crops. The road as they left it was guaranteed to be a quagmire in wet weather and a billowy reach of clods after the sun dried it out. Such a road is on exhibition at Jackson Park. It is placed alongside a good road just to show farmers the difference. To make the display accurate in details a farm wagon is shown, stuck fast in its muddy depth.

The object of the exhibits made by the National League for Good Roads is to convince farmers that they need better thoroughfares in the country, even if they have to pay more taxes for a year.

The little square building, with wide verandas, is at the south of the grounds, east of the colony of windmills, and close to the shore of the south pond. Around the house are the short sections of model roads. Three styles of construction are shown on three widths of roadway. The first road is 33 feet wide, with a stone bed 8 feet wide. The second road is 41 feet wide, with a driveway of 12 feet. The third is 50 feet wide, with 16 feet of drive along the crown. These are intended for country roads.

Of the three styles of road building the first is simply a six inch bed of macadam, with fine stone and sand on top. It would cost about \$5,000 a mile for a narrow roadway. The second is the eight inch macadam, costing \$6,000 a mile. The third is called the telford—eight inches of block stone with four inches of macadam and crushed stone on top, the cost being not far from \$8,000 a mile. The attending engineer says the third style of construction is desirable in soft clay or any soil which has a tendency to be yielding. It costs money, but it lasts forever. All the roads are so built that face sections are exposed. Just back of the league house they are to show a road suitable for very wet land. It has a deep ditch at each side, and the crown of stone work has a steep grade on either side.

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